

Table 3-1
Target Compound List (TCL)
Volatile Organic Compounds (VOCs) and Semi-volatile Organic Compounds (SVOCs)

Volatile Organic Compound	Semi-volatile Organic Compound
Dichlorodifluoromethane	Benzaldehyde
Chloromethane	Phenol
Bromomethane	bis(2-Chloroethyl) ether
Vinyl Chloride	2-Chlorophenol
Chloroethane	2-Methylphenol
Trichlorofluoromethane	2,2'-oxybis(1-Chloropropane)
1,1,2-Trichloro-1,2,2-trifluoroethane	Acetophenone
Methylene Chloride	4-Methylphenol
Acetone	N-Nitroso-di-n-propylamine
Carbon Disulfide	Hexachloroethane
Methyl Acetate	Nitrobenzene
1,1-Dichloroethene	Isophorone
1,1-Dichloroethane	2-Nitrophenol
cis-1,2-Dichloroethene	2,4-Dimethylphenol
trans-1,2-Dichloroethene	bis(2-Chloroethoxy) methane
Methyl tert-Butyl Ether	2,4-Dichlorophenol
Chloroform	Naphthalene
1,2-Dichloroethane	4-Chloroaniline
2-Butanone	Hexachlorobutadiene
Bromochloromethane	Caprolactam
1,1,1-Trichloroethane	4-Chloro-3-methylphenol
Cyclohexane	2-Methylnaphthalene
Carbon Tetrachloride	Hexachlorocyclopentadiene
Bromodichloromethane	2,4,6-Trichlorophenol
1,2-Dichloropropane	2,4,5-Trichlorophenol
cis-1,3-Dichloropropene	1,1'-Biphenyl
Trichloroethene	2-Chloronaphthalene
Methylcyclohexane	2-Nitroaniline
Dibromochloromethane	Dimethylphthalate
1,1,2-Trichloroethane	Acenaphthylene
Benzene	2,6-Dinitrotoluene
trans-1,3-Dichloropropene	3-Nitroaniline
Bromoform	Acenaphthene
Isopropylbenzene	2,4-Dinitrophenol
4-Methyl-2-pentanone	4-Nitrophenol
2-Hexanone	Dibenzofuran
Tetrachloroethene	2,4-Dinitrotoluene
1,2-Dibromoethane	Diethylphthalate
Toluene	4-Chlorophenyl-phenylether
1,1,2,2-Tetrachloroethane	Fluorene
Chlorobenzene	4-Nitroaniline
Ethylbenzene	4,6-Dinitro-2-methylphenol
Styrene	N-Nitrosodiphenylamine
Xylenes (Total)	4-Bromophenyl-phenylether
1,2-Dibromo-3-chloropropane	Hexachlorobenzene
1,3-Dichlorobenzene	Atrazine
1,4-Dichlorobenzene	Pentachlorophenol
1,2-Dichlorobenzene	Phenanthrene
1,2,3-Trichlorobenzene	Anthracene

Table 3-1
Target Compound List (TCL)
Volatile Organic Compounds (VOCs) and Semi-volatile Organic Compounds (SVOCs)

Volatile Organic Compound	Semi-volatile Organic Compound
1,2,4-Trichlorobenzene	Carbazole
	Di-n-butylphthalate
	Fluoranthene
	Pyrene
	Butylbenzylphthalate
	3,3'-Dichlorobenzidine
	Benzo(a)anthracene
	Chrysene
	bis-(2-Ethylhexyl)phthalate
	Di-n-octylphthalate
	Benzo(b)fluoranthene
	Benzo(k)fluoranthene
	Benzo(a)pyrene
	Indeno(1,2,3-cd)pyrene
	Dibenzo(a,h)anthracene
	Benzo(g,h,i)perylene
	1,2,4,5-Tetrachlorobenzene

*Note: Analytical method varies depending upon the media sampled.

Soil - OLM04.3

Groundwater - OLM04.3

Soil Gas - TO-14

OLM04.3 - Contract Laboratory Program Statement of Work for
Multi-Media, Multi-Concentration Organic Analysis

Table 3-2
Target Compound List (TCL) for Pesticides and Aroclors

COMPOUND
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (Lindane)
Heptachlor
Aldrin
Heptachlor epoxide
Endosulfan I
Dieldrin
4,4'-DDE
Endrin
Endosulfan II
4,4'-DDD
Endosulfan sulfate
4,4'-DDT
Methoxychlor
Endrin ketone
Endrin aldehyde
alpha-Chlordane
gamma-Chlordane
Toxaphene
Aroclor-1016
Aroclor-1221
Aroclor-1232
Aroclor-1242
Aroclor-1248
Aroclor-1254
Aroclor-1260

*Note: Analytical method varies depending upon the media sampled.

Soil - OLM04.3

Groundwater - OLM04.3

OLM04.3 - Contract Laboratory Program Statement of Work for Multi-Media, Multi-Concentration Organic Analysis

Table 3-3
Target Analyte List for Metals and Cyanide

ANALYTES
Aluminum
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Silver
Sodium
Thallium
Vanadium
Zinc
Cyanide

*Note: Analytical method varies depending upon the media sampled.
Soil - ILM05.3
Groundwater - ILM05.3

ILM05.3 - Contract Laboratory Program Statement of Work for Multi-Media, Multi-Concentration Inorganic Analysis

Table 4-1
Soil Gas Field Instrument Readings
Lower Darby Creek Area
1 of 5

Location Name	Location Type	Measurement Date	Depth (ft)	Carbon Monoxide (CO, ppm)	Carbon Dioxide (CO ₂ , %)	Percent of Lower Explosive Limit (% LEL)	Methane (CH ₄ , %)	Oxygen (O ₂ , %)	Total VOC Concentration (PID*, ppm**)	Hydrogen Sulfide, ppm
LD-CB01	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0.2	0	0	20.1	0	--
LD-CB02	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0.1	0	0	20	0.5	--
LD-CB03	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0	0	0	20.5	0	--
LD-CB04	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0.1	0	0	20	0	--
LD-CB05	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0.1	0	0	20	0.1	--
LD-CB06	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0.1	0	0	20	0	--
LD-CB07	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0	0	0	20.4	0	--
LD-CB08	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0	0	0	20.3	0	--
LD-CB09	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0	0	0	20.1	0	--
LD-CB10	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0	0	0	20.1	0	--
LD-CB11	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0	0	0	20.2	0	--
LD-CB12	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0	0	0	20.3	0	--
LD-CB13	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0	0	0	20.4	0	--
LD-CB14	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0	0	0	20.3	0	--
LD-CB15	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0	0	0	20.4	0	--
LD-CB16	Storm Sewer Catch Basin	15-Apr-03	Approx 1ft.	--	0	0	0	20.3	0.1	--
GP001	GeoProbe Soil Boring	10-Feb-03	16	--	0	2	0.1	21.3	--	--
GP002	GeoProbe Soil Boring	10-Feb-03	14	--	0.5	22	1.1	21.3	0	--
GP003	GeoProbe Soil Boring	11-Feb-03	16	--	0.2	4	0.2	21.3	1.7	--
GP004	GeoProbe Soil Boring	11-Feb-03	12	--	0.2	4	0.2	20.8	1.7	--
GP005	GeoProbe Soil Boring	12-Feb-03	18.8	--	0	0	0	21.5	0	--
GP006	GeoProbe Soil Boring	12-Feb-03	20	--	0.1	0.1	0.1	21.7	0	--
GP007	GeoProbe Soil Boring	31-Mar-03	19	40	--	1	0.05	20.6	0	6
GP008	GeoProbe Soil Boring	31-Mar-03	19.5	45	--	1	0.05	17.6	0	5
GP009	GeoProbe Soil Boring	31-Mar-03	20	154	--	1	0.05	11.7	0	10
GP010	GeoProbe Soil Boring	01-Apr-03	24	32	--	1	0.05	14.9	0	4
GP011	GeoProbe Soil Boring	01-Apr-03	22	428	--	0	0	0	0	12
GP014	GeoProbe Soil Boring	02-Apr-03	32	7	--	0	0	21	0	4
GP015	GeoProbe Soil Boring	02-Apr-03	24	11	--	0	0	20.9	0	4
GP016	GeoProbe Soil Boring	02-Apr-03	23	86	--	0	0	10.6	0	11
GP017	GeoProbe Soil Boring	02-Apr-03	24	5	--	0	0	20.1	0	4
GP018	GeoProbe Soil Boring	03-Apr-03	11.5	47	--	49	2.45	19.7	0	5
GP019	GeoProbe Soil Boring	03-Apr-03	12	0	--	3	0.15	16.4	0	3
GP020	GeoProbe Soil Boring	03-Apr-03	12	21	--	9	0.45	20.4	0	4
GP021	GeoProbe Soil Boring	03-Apr-03	8	36	--	0	0	21.2	0	3
GP022	GeoProbe Soil Boring	04-Apr-03	12	45	--	24	1.2	13.8	0	5
GP023	GeoProbe Soil Boring	04-Apr-03	~ 2 - 4	428	--	30	1.5	14.5	0	11
GP024	GeoProbe Soil Boring	04-Apr-03	8	41	--	100	5	16.6	50	4
GP025	GeoProbe Soil Boring	04-Apr-03	16	42	--	2	0.1	20.4	0	5
GP026	GeoProbe Soil Boring	07-Apr-03	17	0	--	12	0.6	20.9	0	3
GP028	GeoProbe Soil Boring	07-Apr-03	11.5	--	0.2	78.9	0.1	20.8	300	--
GP029	GeoProbe Soil Boring	08-Apr-03	20	--	1.3	78	13.8	19.7	0	--
GP030	GeoProbe Soil Boring	08-Apr-03	24	--	0.7	14	0.8	20.5	0	--
GP031	GeoProbe Soil Boring	08-Apr-03	16	0.8	--	282	14.6	16.1	10.5	--
GP032	GeoProbe Soil Boring	09-Apr-03	19	154	--	100	5	20.4	0	4
GP033	GeoProbe Soil Boring	09-Apr-03	15	--	--	100	5	--	0	--
GP034	GeoProbe Soil Boring	10-Apr-03	10	--	--	25	1.25	--	5	--
GP035	GeoProbe Soil Boring	10-Apr-03	4	--	--	100	5	--	5	--
GP036	GeoProbe Soil Boring	10-Apr-03	10	173	--	100	5	19.2	--	5
GP037	GeoProbe Soil Boring	10-Apr-03	10	10	--	51	2.55	19.5	2.5	0
GP038	GeoProbe Soil Boring	11-Apr-03	12	--	9	--	0	14.5	--	--
GP039	GeoProbe Soil Boring	14-Apr-03	8	--	0.4	6	0.4	17.6	0.3	0
GP040	GeoProbe Soil Boring	14-Apr-03	12	--	10	2	0.1	9	0.3	0
GP041	GeoProbe Soil Boring	14-Apr-03	8	--	21	26	1.5	14.3	--	--
GP042	GeoProbe Soil Boring	16-Apr-03	11	--	0	0	0	19.5	0	0
GP043	GeoProbe Soil Boring	16-Apr-03	8	4	0.2	28	1.3	19.5	0.6	0
GP044	GeoProbe Soil Boring	16-Apr-03	8	--	1.3	0	0	16	0	--
GP045	GeoProbe Soil Boring	16-Apr-03	8	--	5.6	12	0.7	5.6	0	--
GP046	GeoProbe Soil Boring	17-Apr-03	20	--	0	0	6	20	0	--
GP047	GeoProbe Soil Boring	17-Apr-03	16	--	1.3	0	0	18.7	0	--
GP048	GeoProbe Soil Boring	17-Apr-03	20	--	0.5	0	0	20.1	0	--
GP049	GeoProbe Soil Boring	17-Apr-03	12	--	0.1	12	0.5	20.3	0	--
GP050	GeoProbe Soil Boring	18-Apr-03		--	0.1	6	0.3	20	0	--
GP051	GeoProbe Soil Boring	21-Apr-03	8.5	--	0.1	0	0	20.2	0.8	--
GP052	GeoProbe Soil Boring	21-Apr-03	16	--	0.2	26	0.3	19.4	7.5	--
GP053	GeoProbe Soil Boring	21-Apr-03	12	--	0	0	0	20.6	5	--

Table 4-1
Soil Gas Field Instrument Readings
Lower Darby Creek Area
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Location Name	Location Type	Measurement Date	Depth (ft)	Carbon Monoxide (CO, ppm)	Carbon Dioxide (CO ₂ , %)	Percent of Lower Explosive Limit (% LEL)	Methane (CH ₄ , %)	Oxygen (O ₂ , %)	Total VOC Concentration (PID*, ppm**)	Hydrogen Sulfide, ppm
GP054	GeoProbe Soil Boring	21-Apr-03	16	--	0.6	2	0.1	19.7	--	--
GP055	GeoProbe Soil Boring	21-Apr-03	20	--	1.5	90	5.6	19.9	0.6	--
GP056	GeoProbe Soil Boring	22-Apr-03	8	346	--	80	4	11.2	32	11
GP057	GeoProbe Soil Boring	22-Apr-03	20	253	--	50	2.5	19.4	12.8	8
GP058	GeoProbe Soil Boring	22-Apr-03	20	85	--	0	0	20.9	27	3
GP067	GeoProbe Soil Boring	17-Apr-03	20	--	4.5	0	0	6.5	0	--
GP080	GeoProbe Soil Boring	15-Apr-03	8	81	--	0	0	20.7	0	3
GP082	GeoProbe Soil Boring	13-Jul-04	16	--	--	--	--	--	--	--
GP083	GeoProbe Soil Boring	13-Jul-04	16	--	0.7	--	--	18.3	3.4	--
GP084	GeoProbe Soil Boring	13-Jul-04	19	--	--	--	--	--	0	--
GP085	GeoProbe Soil Boring	14-Jul-04	32	--	10.8	--	75.5	0.8	0	--
GP086	GeoProbe Soil Boring	15-Jul-04	20	--	12.9	--	0.3	6.7	0	--
GP087	GeoProbe Soil Boring	15-Jul-04	20.0	--	13.6	--	0.3	7.6	0	--
GP088	GeoProbe Soil Boring	16-Jul-04	24.0	--	0.3	--	0	19.7	0	--
GP089	GeoProbe Soil Boring	21-Jul-04	24.0	--	18	--	2.2	1	0	--
GP090	GeoProbe Soil Boring	11-Jul-04	16.0	--	11.2	--	0.3	6.3	0	--
GP091	GeoProbe Soil Boring	16-Jul-04	16.0	--	0	--	0	20.5	0	--
GP092	GeoProbe Soil Boring	19-Jul-04	16	--	0	--	2.6	14.4	0	--
GP093	GeoProbe Soil Boring	23-Jul-04	16.0	--	0	--	0	20.6	0.5	--
GP094	GeoProbe Soil Boring	23-Jul-04	7.5	--	0	--	1	17.5	5	--
GP095	GeoProbe Soil Boring	23-Jul-04	16	--	0	--	0.8	11.6	0	--
GP096	GeoProbe Soil Boring	26-Jul-04	20	--	0	--	0	21	0.2	--
GP098	GeoProbe Soil Boring	20-Jul-04	20	--	1.3	--	0	17	1.4	--
GP101	GeoProbe Soil Boring	20-Jul-04	16	--	4.7	--	0	16	35	--
GP102	GeoProbe Soil Boring	20-Jul-04	20	--	0	--	0	19.6	2.1	--
GP103	GeoProbe Soil Boring	20-Jul-04	20	--	0	--	0	20.4	0	--
GP104	GeoProbe Soil Boring	14-Jul-04	23	--	12.7	--	0	1.2	0.3	--
GP105	GeoProbe Soil Boring	14-Jul-04	31	--	0	--	0	20.8	0	--
GP106	GeoProbe Soil Boring	19-Jul-04	20	--	0	--	0	20.5	3.4	--
GP107	GeoProbe Soil Boring	19-Jul-04	20	--	1.2	--	0	18.4	35	--
GP108	GeoProbe Soil Boring	20-Jul-04	20	--	0	--	0	20.7	0	--
GP109	GeoProbe Soil Boring	20-Jul-04	24	--	11.2	--	0	8.5	0	--
GP110	GeoProbe Soil Boring	23-Jul-04	20	--	11.9	--	0	9	0	--
GP211	GeoProbe Soil Boring	19-Jan-06	16	--	--	--	--	--	0	--
GP213	GeoProbe Soil Boring	17-Jan-06	12	--	--	--	--	--	0	--
GP214	GeoProbe Soil Boring	17-Jan-06	12	--	--	--	--	--	0	--
GP215	GeoProbe Soil Boring	02-Feb-06	12	--	--	--	--	--	0	--
GP216	GeoProbe Soil Boring	02-Feb-06	8	--	--	--	--	--	--	--
GP217	GeoProbe Soil Boring	02-Feb-06	12	3	--	50	2.5	16	0.6	3
GP218	GeoProbe Soil Boring	13-Jan-06	12	--	--	--	--	--	0	--
GP219	GeoProbe Soil Boring	31-Jan-06	18	--	--	--	--	--	25	--
GP220	GeoProbe Soil Boring	02-Feb-06	12	5	--	50	2.5	18.6	0.4	0
GP221	GeoProbe Soil Boring	01-Feb-06	12	--	--	--	--	--	0	--
GP222	GeoProbe Soil Boring	31-Jan-06	20	--	--	--	--	--	--	--
GP224	GeoProbe Soil Boring	20-Jan-06	16	--	--	--	--	--	0	--
GP225	GeoProbe Soil Boring	01-Feb-06	12	--	--	--	--	--	1	--
GP226	GeoProbe Soil Boring	02-Feb-06	16	--	--	--	--	--	0	--
GP227	GeoProbe Soil Boring	13-Jan-06	20	--	--	--	--	--	0.5	--
GP228	GeoProbe Soil Boring	01-Feb-06	12	--	--	--	--	--	20	--
GP229	GeoProbe Soil Boring	01-Feb-06	20	--	--	--	--	--	20	--
GP230	GeoProbe Soil Boring	19-Jan-06	20	--	--	--	--	--	25	--
GP231	GeoProbe Soil Boring	26-Jan-06	20	--	--	--	--	--	0	--
GP232	GeoProbe Soil Boring	12-Jan-06	18	--	--	--	--	--	0.5	--
GP233	GeoProbe Soil Boring	26-Jan-06	20	--	--	--	--	--	0	--
GP234	GeoProbe Soil Boring	26-Jan-06	8	--	--	--	--	--	0	--
GP235	GeoProbe Soil Boring	12-Jan-06	18	--	--	--	--	--	0	--
GP236	GeoProbe Soil Boring	11-Jan-06	12	--	--	--	--	--	0.5	--
GP237	GeoProbe Soil Boring	11-Jan-06	12	--	--	40	2	--	0	--
GP238	GeoProbe Soil Boring	10-Jan-06	16	--	--	--	--	--	0	--
GP239	GeoProbe Soil Boring	02-Feb-06	8	19	--	50	2.5	7.2	0	4
GP240	GeoProbe Soil Boring	09-Jan-06	16	--	--	--	--	--	0.2	--
GP241	GeoProbe Soil Boring	05-Dec-05	16	--	--	28	1.4	18.65	10	--
GP242	GeoProbe Soil Boring	10-Jan-05	17	--	--	--	--	--	0.2	--
GP243	GeoProbe Soil Boring	05-Jan-06	16	--	--	--	--	--	0	--
GP244	GeoProbe Soil Boring	09-Jan-06	12	--	--	--	--	--	1	--
GP245	GeoProbe Soil Boring	06-Dec-05	16	--	--	--	--	--	0	--

Table 4-1
Soil Gas Field Instrument Readings
Lower Darby Creek Area
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Location Name	Location Type	Measurement Date	Depth (ft)	Carbon Monoxide (CO, ppm)	Carbon Dioxide (CO ₂ , %)	Percent of Lower Explosive Limit (% LEL)	Methane (CH ₄ , %)	Oxygen (O ₂ , %)	Total VOC Concentration (PID*, ppm**)	Hydrogen Sulfide, ppm
GP246	GeoProbe Soil Boring	06-Dec-05	12.5	--	--	--	--	--	0	--
GP247	GeoProbe Soil Boring	09-Jan-06	12	--	--	21	1.05	--	0	--
GP248	GeoProbe Soil Boring	26-Jan-06	4	--	--	--	--	--	--	--
GP249	GeoProbe Soil Boring	25-Jan-06	4	--	--	--	--	--	--	--
GP250	GeoProbe Soil Boring	25-Jan-06	4	--	--	--	--	--	--	--
GP251	GeoProbe Soil Boring	25-Jan-06	4	--	--	--	--	--	--	--
GP253	GeoProbe Soil Boring	26-Jan-06	4	--	--	--	--	--	--	--
LD-SG001	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	0	0	20.7	9.5	--
LD-SG002	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	0	0	20.7	2	--
LD-SG003	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	0	0	20.6	7.9	--
LD-SG004	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	0	0	20.7	4.8	--
LD-SG005	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	0	0	20.7	7.8	--
LD-SG006	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	0	0	20.6	85.5	--
LD-SG007	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	0	0	20.6	20.2	--
LD-SG008	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	0	0	20.8	35.3	--
LD-SG009	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	0	0	20.9	2.7	--
LD-SG010	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	0	0	20.9	0.5	--
LD-SG011	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	3	0	0	10.5	1.5	--
LD-SG012	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	2.7	0	0	16.3	4.8	--
LD-SG013	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0.1	0	0	20.4	2.2	--
LD-SG014	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	1.2	0	0	19	0.8	--
LD-SG015	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0.8	0	0	19.8	3.6	--
LD-SG016	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	0	0	20.8	1.5	--
LD-SG017	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	3.2	0	0	18.4	3	--
LD-SG018	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	1.6	0	0	18.9	0.8	--
LD-SG019	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0.2	0	0	20.5	0.5	--
LD-SG020	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	0	0	21.1	0	--
LD-SG021	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	1.5	2	0.1	18.5	0.5	--
LD-SG022	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0.2	2	0.1	20.4	0.3	--
LD-SG023	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0.8	2	0.1	19.5	2	--
LD-SG024	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	8.6	100	58.7	5.1	0.9	--
LD-SG025	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0.2	2	0.1	20.5	1	--
LD-SG026	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	2	0.1	20.3	1.6	--
LD-SG027	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	2	0.1	20.7	0.7	--
LD-SG028	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0	2	0.1	20.6	0.8	--
LD-SG029	Shallow Soil Gas Borehole	14-Apr-03	1.5 - 2.0	--	0.2	2	0.1	20.3	0.9	--
LD-SG030	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0	0	0	20.4	0.1	--
LD-SG031	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0	0	0	20.6	3.9	--
LD-SG032	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0	0	0	20.4	12	--
LD-SG033	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.2	0	0	20.6	8.5	--
LD-SG034	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.7	0	0	20.2	4.1	--
LD-SG035	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.7	0	0	20.3	49	--
LD-SG036	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.6	0	0	20.3	5.6	--
LD-SG037	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.1	0	0	20.9	2.4	--
LD-SG038	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0	0	0	21	8.9	--
LD-SG039	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0	0	0	20.3	1.5	--
LD-SG040	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0	0	0	20.9	1.1	--
LD-SG041	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.3	0	0	20.3	45	--
LD-SG042	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.1	0	0	20.6	1.3	--
LD-SG043	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.1	0	0	20.5	0.1	--
LD-SG044	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.1	0	0	20.5	3.3	--
LD-SG045	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0	0	0	20.7	1.3	--
LD-SG046	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.1	0	0	20.7	0.2	--
LD-SG047	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.1	0	0	20.7	2.9	--
LD-SG048	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0	0	0	20.7	7.9	--
LD-SG049	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.1	0	0	20.5	0.4	--
LD-SG050	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0	0	0	20.7	4	--
LD-SG051	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0	0	0	20.7	106	--
LD-SG052	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.1	0	0.1	20.3	0.1	--
LD-SG053	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0	0	0	20.5	10.5	--
LD-SG054	Shallow Soil Gas Borehole	15-Apr-03	1.5 - 2.0	--	0.1	0	0	20.6	1.2	--
LD-SG055	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0	--	0	20.5	0	--
LD-SG056	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0.5	--	0	20.1	0	--
LD-SG057	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0.1	--	0	20.5	0.6	--
LD-SG058	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0.2	--	0	20.3	0.1	--
LD-SG059	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0.1	--	0	20.4	0	--

Table 4-1
Soil Gas Field Instrument Readings
Lower Darby Creek Area
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Location Name	Location Type	Measurement Date	Depth (ft)	Carbon Monoxide (CO, ppm)	Carbon Dioxide (CO ₂ , %)	Percent of Lower Explosive Limit (% LEL)	Methane (CH ₄ , %)	Oxygen (O ₂ , %)	Total VOC Concentration (PID*, ppm**)	Hydrogen Sulfide, ppm
LD-SG060	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0.7	--	0	19.9	0.7	--
LD-SG061	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0.2	--	0	20.5	1	--
LD-SG062	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0	--	0	20.4	0.2	--
LD-SG063	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0	--	0	20.8	0.3	--
LD-SG064	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	1.1	--	0	19.4	0.4	--
LD-SG065	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0	--	0	20.5	0	--
LD-SG066	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0	--	0	20.6	0	--
LD-SG067	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0	--	0	20.4	0.2	--
LD-SG068	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0.3	--	0	20.1	0.2	--
LD-SG069	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0	--	0	20.5	0	--
LD-SG070	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0.1	--	0	20.4	0	--
LD-SG071	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0.8	--	0	19.8	0.1	--
LD-SG072	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0.1	--	0	20.5	0	--
LD-SG073	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0	--	0	20.6	0	--
LD-SG074	Shallow Soil Gas Borehole	16-Apr-03	1.5 - 2.0	--	0	--	0	20.6	0	--
LD-SG075	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.4	0	--
LD-SG076	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.3	0	--
LD-SG077	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0.2	--	0	21	0	--
LD-SG078	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.3	0.4	--
LD-SG079	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.4	0.1	--
LD-SG080	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.3	3	--
LD-SG081	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.3	2.3	--
LD-SG082	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.3	2.1	--
LD-SG083	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.3	0.2	--
LD-SG084	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.4	0.5	--
LD-SG085	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.3	0.4	--
LD-SG086	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.4	1	--
LD-SG087	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.3	26	--
LD-SG088	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.4	0.7	--
LD-SG089	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.6	9	--
LD-SG090	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.6	14	--
LD-SG091	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.3	4.5	--
LD-SG092	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.4	10.8	--
LD-SG093	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.3	0	--
LD-SG094	Shallow Soil Gas Borehole	23-Apr-03	1.5 - 2.0	--	0	--	0	21.4	0	--
LD-SG095	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	--	20.8	2	--
LD-SG096	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	--	21	3.3	--
LD-SG097	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0.3	--	0	20.5	4.1	--
LD-SG098	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0.2	--	0	20.6	2.9	--
LD-SG099	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	2.4	--
LD-SG100	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0.1	--	0	20.8	1.9	--
LD-SG101	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	2.2	--
LD-SG102	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0.7	--	0	19.8	2.6	--
LD-SG103	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0.6	--	0	19.8	2.6	--
LD-SG104	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	2.4	--
LD-SG105	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	2.7	--
LD-SG106	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	0.6	--
LD-SG107	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	2	--
LD-SG108	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	0.4	--
LD-SG109	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	1	--
LD-SG110	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	1.4	--
LD-SG111	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	0.6	--
LD-SG112	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.2	0	--
LD-SG113	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	3	--
LD-SG114	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	1.2	--	0	19.8	2.5	--
LD-SG115	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	4.2	--
LD-SG116	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0.1	--	0	21	1.2	--
LD-SG117	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	40.2	--
LD-SG118	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	5.7	--
LD-SG119	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	20.8	6	--
LD-SG120	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	20.9	9	--
LD-SG121	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0.2	--	0	20.6	2.9	--
LD-SG122	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	20.9	1.2	--
LD-SG123	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	20.9	12.5	--
LD-SG124	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	2.5	--
LD-SG125	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	5.1	--

Table 4-1
Soil Gas Field Instrument Readings
Lower Darby Creek Area
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Location Name	Location Type	Measurement Date	Depth (ft)	Carbon Monoxide (CO, ppm)	Carbon Dioxide (CO ₂ , %)	Percent of Lower Explosive Limit (% LEL)	Methane (CH ₄ , %)	Oxygen (O ₂ , %)	Total VOC Concentration (PID*, ppm**)	Hydrogen Sulfide, ppm
LD-SG126	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	0.9	--
LD-SG127	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.2	2.2	--
LD-SG128	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	1.4	--
LD-SG129	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.2	2.6	--
LD-SG130	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	2.9	--
LD-SG131	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	1.3	--
LD-SG132	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	2.6	--
LD-SG133	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0.1	--	0	20.8	1.8	--
LD-SG134	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	20.8	2.3	--
LD-SG135	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21	1.2	--
LD-SG136	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.2	1.8	--
LD-SG137	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.2	0.8	--
LD-SG138	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	2.9	--
LD-SG139	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	0.7	--
LD-SG140	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.2	2.5	--
LD-SG141	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	1.3	--
LD-SG142	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	1.2	--
LD-SG143	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	1.6	--
LD-SG144	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	1.8	--
LD-SG145	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	1.3	--
LD-SG146	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.2	0.4	--
LD-SG147	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	0.7	--
LD-SG148	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	0.6	--
LD-SG149	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.1	1.4	--
LD-SG150	Shallow Soil Gas Borehole	01-May-03	1.5 - 2.0	--	0	--	0	21.2	0	--
MW04	Monitoring Well	08-Dec-05	50	--	--	--	--	--	--	--
MW05D	Monitoring Well	09-Feb-06	35	--	--	--	--	--	--	--
MW05S	Monitoring Well	17-Jan-06	17	--	--	--	--	--	--	--
MW06	Monitoring Well	23-Jan-06	20	--	--	--	--	--	--	--
MW07D	Monitoring Well	06-Jun-06	32	--	--	--	--	--	--	--
MW07S	Monitoring Well	29-Jan-06	20	--	--	--	--	--	--	--
MW10	Monitoring Well	15-Dec-05	80	--	--	--	--	--	--	--
MW11	Monitoring Well	16-Dec-05	52	--	--	--	--	--	--	--
MW12	Monitoring Well	13-Dec-05	30	--	--	--	--	--	--	--

* Note: Highlighted methane values are calculated based on % LEL
e.g., 100% LEL = 5% methane in gas. Therefore, 1% LEL = (1 x 5)/100 = 0.05% methane
-- Not Measured

Table 4-2
 Volatile Organic Compounds (VOCs) Detected in Soil Gas
 Lower Darby Creek Area
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Investigation Zones	Sampling Date	Sampling Location	Unit	1,1,2,2-tetrachloroethane	1,1,2-trichloroethane	1,2,4-trichlorobenzene	1,2,4-trimethylbenzene	1,2-dichloroethane	1,3,5-trimethylbenzene (mesitylene)	1,3-dichlorobenzene	1,4-dichlorobenzene	benzene	benzyl chloride	carbon disulfide	carbon tetrachloride	chlorobenzene	chloroethane	chloroform	cis-1,2-dichloroethylene	dichlorodifluoromethane	methyl ethyl ketone (2-butanone)	methylene chloride	methyl tert-butyl ether	tetrachloroethylene (PCE)	toluene	trichloroethylene (TCE)	vinyl chloride	Total volatile organic compounds *						
	RBCs for Ambient Air**			0.031	0.110	37	7.300	0.069	6.205	11	0.156	0.23	0.037	730	0.120	51	2.2	0.077	37	180	5100	3.8	1.6	0.31	5100	0.016	0.072	--						
CITY PARK	4/17/03	GP049	µg/m ³	0	0	0	0	0	0	0	0	3	J	0	0	0	0	0	0	0	0	0	0	0	4	J	0	0	7					
	4/18/03	GP050	µg/m ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6					
	4/21/03	GP051	µg/m ³	0	0	0	5	J	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	20					
	4/21/03	GP052	µg/m ³	0	0	0	5	J	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	11	0	0	0	25					
	4/21/03	GP053	µg/m ³	0	0	0	5	J	0	0	0	7	0	0	0	0	0	0	0	0	6	0	0	0	8	0	0	0	26					
	4/21/03	GP054	µg/m ³	0	0	0	5	J	0	0	0	7	0	0	0	0	0	0	0	0	6	0	0	0	8	0	0	0	223					
	4/21/03	GP055	µg/m ³	0	0	0	5	J	0	0	0	3	J	0	0	0	0	0	0	0	3	J	0	0	42	0	0	0	53					
	4/22/03	GP056	µg/m ³	0	0	0	5	0	0	0	0	7	0	0	0	0	0	0	0	0	69	0	0	0	15	0	0	0	96					
	4/22/03	GP057	µg/m ³	0	0	0	5	J	0	0	0	3	J	0	0	0	0	0	0	0	12	3	J	0	11	0	0	0	34					
	4/22/03	GP058	µg/m ³	0	0	0	5	J	0	0	0	3	J	0	0	0	0	0	0	0	6	0	0	0	15	0	0	0	29					
	4/17/03	GP067	µg/m ³	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	8	4	J	0	0	20				
	4/15/03	GP080	µg/m ³	0	0	0	10	0	0	0	0	3	J	0	0	0	4	J	0	0	0	0	0	0	15	0	0	0	32					
	4/16/03	GP081	µg/m ³	0	0	0	15	0	0	0	0	5	J	3	J	0	9	0	0	0	0	0	0	0	15	0	0	0	47					
	7/14/04	GP085	µg/m ³	0	U	0	U	1.3	J	0	U	2.3	J	3	J	0	U	2.8	J	0	U	0	U	0	U	3.5	J	0	U	0	53			
	7/15/04	GP087	µg/m ³	0	U	0	U	12	0	U	5.4	0	U	5.2	J	0	U	0	U	0	U	18	0	U	0	U	5	J	41	0	U	0	87	
	7/16/04	GP088	µg/m ³	0	U	0	U	54	0	U	21	0	U	2.1	J	1.7	J	0	U	1	J	0	U	0	U	12	0	U	0	U	256			
	7/21/04	GP089	µg/m ³	0	U	0	U	0	U	0	U	0	U	5.1	0	U	0	U	0	U	0	0	U	0	U	13	0	U	0	U	26			
	7/16/04	GP090	µg/m ³	0	U	0	U	3.1	J	0	U	1.1	J	0	U	2.3	J	1.5	J	0	U	6.5	0	U	0	U	4.1	0	U	0	U	82		
	7/16/04	GP091	µg/m ³	0	U	0	U	17	0	U	4.9	0	U	3.4	J	7.3	0	U	1.2	J	0	U	0	U	0	U	23	0	U	0	U	119		
	7/19/04	GP092	µg/m ³	0	U	0	U	0	U	0	U	0	U	8.3	0	U	3.7	0	U	0	U	1.5	J	2.2	J	12	9.1	0	U	0	U	186		
	7/23/04	GP093	µg/m ³	0	U	0	U	9.3	0	U	2.8	J	0	U	0	U	15	0	U	6.2	0	U	0	U	0	U	22	0	U	0	U	99		
	7/23/04	GP094	µg/m ³	0	U	0	U	0	U	0	U	0	U	2.6	J	16	0	U	0	U	0	U	0	U	0	U	14	5.9	1	J	129			
	7/23/04	GP095	µg/m ³	0	U	0	U	9.3	0	U	3.5	J	0	U	0	U	0	U	0	U	0	U	0	U	0	U	38	0	U	0	U	123		
	7/26/04	GP096	µg/m ³	0	U	0	U	17	0	U	3.8	J	0	U	2.3	J	27	0	U	12	0	U	0	U	0	U	110	0	U	0	U	219		
	7/26/04	GP098	µg/m ³	0	U	0	U	79	0	U	69	0	U	450	0	U	71	0	U	0	U	22	0	U	0	U	600	0	U	0	U	1,335		
	1/9/06	GP247	µg/m ³	0	0	0	0	12	J	0	0	6.7	0	UJ	0	0	8.6	0	0	0	0	110	0	0	0	10	0	0	0	0	166			
7/22/04	VM01	µg/m ³	0	U	0	U	7.4	1.3	J	2.4	J	0	U	0	U	12	0	U	62	0	U	0	U	0	U	12	0	U	7	13,119				
7/22/04	VM02	µg/m ³	0	U	0	U	0	U	0	U	0	U	2.8	J	0	U	2.1	J	0	U	210	0	U	0	U	6.4	0	U	0	U	221			
7/22/04	VM03	µg/m ³	0	U	0	U	5.4	0	U	1.9	J	0	U	0	U	0	U	0	U	0	13000	E	0	U	0	U	22	0	U	0	U	13,029		
7/22/04	VM04	µg/m ³	0	U	0	U	0	U	0	U	0	U	32	0	U	0.68	J	0	U	0	290	0	U	0	U	4.9	0	U	0	U	329			
7/22/04	VM05	µg/m ³	0	U	0	U	4.1	J	0	U	1	J	0	U	4.5	0	U	17	0	U	2.2	J	0.87	J	0	U	5.2	J	9.8	1.8	J	1	J	51
7/22/04	VM06	µg/m ³	0	U	0	U	3.7	J	0	U	0	U	2.4	J	0	U	44	0	U	0	12000	E	0	U	2.2	J	12	3.8	0	U	7	12,092		

** EPA Region III Risk Based Concentrations for Ambient Air, October 2007

Shaded values indicate concentrations exceeding EPA Region 3 RBCs for ambient air.

* Total Volatile Organic Compounds (VOCs) = Σ(individual VOC)

- B - Not detected substantially above the level reported in laboratory
- E - concentrations exceed the calibration range
- J - Reported value may not be accurate or precise
- U - Not detected
- UJ - The analyte was not detected above the reported sample QL

Table 4-3
Soil Vapor Differential Pressures
Lower Darby Creek Area
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Date	Time	Elapsed Time	Borehole pressure	Atmospheric Pressure	Atmospheric Pressure*	Delta AP**	Temp	Delta T***	Sum of Atmospheric and Borehole pressures
		Minutes	inches H ₂ O	inches Hg	inches H ₂ O	inches H ₂ O	Deg. F	Deg. F	inches H ₂ O
04/03/04	10:19 AM	0	0.31	30.19	411.140	-0.026	48	-0.145	0.284
04/03/04	10:25 AM	6	0.39	30.19	411.140	-0.026	48	-0.145	0.364
04/03/04	10:31 AM	12	0.36	30.19	411.140	-0.026	48	-0.145	0.334
04/03/04	10:37 AM	18	0.29	30.19	411.140	-0.026	48	-0.145	0.264
04/03/04	10:43 AM	24	0.25	30.19	411.140	-0.026	48	-0.145	0.224
04/03/04	10:49 AM	30	0.27	30.19	411.140	-0.026	48	-0.145	0.244
04/03/04	10:55 AM	36	0.27	30.19	411.140	-0.026	48	-0.145	0.244
04/03/04	11:01 AM	42	0.28	30.19	411.140	-0.026	48	-0.145	0.254
04/03/04	11:07 AM	48	0.3	30.19	411.140	-0.026	48	-0.145	0.274
04/03/04	11:13 AM	54	0.38	30.19	411.140	-0.026	48	-0.145	0.354
04/03/04	11:19 AM	60	0.41	30.19	411.140	-0.026	48	-0.145	0.384
04/03/04	11:25 AM	66	0.38	30.19	411.140	-0.026	48	-0.145	0.354
04/03/04	11:31 AM	72	0.4	30.19	411.140	-0.026	48	-0.145	0.374
04/03/04	11:37 AM	78	0.41	30.18	411.004	-0.162	48	-0.145	0.248
04/03/04	11:43 AM	84	0.45	30.18	411.004	-0.162	48	-0.145	0.288
04/03/04	11:49 AM	90	0.49	30.18	411.004	-0.162	48	-0.145	0.328
04/03/04	11:55 AM	96	0.54	30.18	411.004	-0.162	48	-0.145	0.378
04/03/04	12:01 PM	102	0.52	30.18	411.004	-0.162	48	-0.145	0.358
04/03/04	12:07 PM	108	0.52	30.18	411.004	-0.162	48	-0.145	0.358
04/03/04	12:13 PM	114	0.49	30.18	411.004	-0.162	48	-0.145	0.328
04/03/04	12:19 PM	120	0.53	30.18	411.004	-0.162	48	-0.145	0.368
04/03/04	12:25 PM	126	0.68	30.18	411.004	-0.162	48	-0.145	0.518
04/03/04	12:31 PM	132	0.76	30.18	411.004	-0.162	49	0.855	0.598
04/03/04	12:37 PM	138	0.71	30.17	410.867	-0.299	49	0.855	0.411
04/03/04	12:43 PM	144	0.69	30.17	410.867	-0.299	49	0.855	0.391
04/03/04	12:49 PM	150	0.69	30.17	410.867	-0.299	49	0.855	0.391
04/03/04	12:55 PM	156	0.68	30.17	410.867	-0.299	49	0.855	0.381
04/03/04	1:01 PM	162	0.75	30.17	410.867	-0.299	49	0.855	0.451
04/03/04	1:07 PM	168	0.77	30.17	410.867	-0.299	49	0.855	0.471
04/03/04	1:13 PM	174	0.77	30.17	410.867	-0.299	49	0.855	0.471
04/03/04	1:19 PM	180	0.67	30.16	410.731	-0.435	49	0.855	0.235
04/03/04	1:25 PM	186	0.65	30.16	410.731	-0.435	49	0.855	0.215
04/03/04	1:31 PM	192	0.81	30.15	410.595	-0.571	49	0.855	0.239
04/03/04	1:37 PM	198	0.84	30.15	410.595	-0.571	49	0.855	0.269
04/03/04	1:43 PM	204	0.83	30.15	410.595	-0.571	49	0.855	0.259
04/03/04	1:49 PM	210	0.86	30.14	410.459	-0.707	49	0.855	0.153
04/03/04	1:55 PM	216	0.84	30.14	410.459	-0.707	49	0.855	0.133
04/03/04	2:01 PM	222	0.8	30.14	410.459	-0.707	49	0.855	0.093
04/03/04	2:07 PM	228	0.74	30.14	410.459	-0.707	49	0.855	0.033
04/03/04	2:13 PM	234	0.75	30.14	410.459	-0.707	49	0.855	0.043
04/03/04	2:19 PM	240	0.75	30.14	410.459	-0.707	49	0.855	0.043
04/03/04	2:25 PM	246	0.74	30.14	410.459	-0.707	49	0.855	0.033
04/03/04	2:31 PM	252	0.7	30.14	410.459	-0.707	50	1.855	-0.007
04/03/04	2:37 PM	258	0.67	30.14	410.459	-0.707	50	1.855	-0.037
04/03/04	2:43 PM	264	0.62	30.14	410.459	-0.707	50	1.855	-0.087
04/03/04	2:49 PM	270	0.64	30.15	410.595	-0.571	50	1.855	0.069
04/03/04	2:55 PM	276	0.66	30.15	410.595	-0.571	50	1.855	0.089
04/03/04	3:01 PM	282	0.61	30.15	410.595	-0.571	51	2.855	0.039
04/03/04	3:07 PM	288	0.63	30.15	410.595	-0.571	51	2.855	0.059
04/03/04	3:13 PM	294	0.53	30.15	410.595	-0.571	51	2.855	-0.041
04/03/04	3:19 PM	300	0.51	30.16	410.731	-0.435	52	3.855	0.075
04/03/04	3:25 PM	306	0.47	30.16	410.731	-0.435	52	3.855	0.035
04/03/04	3:31 PM	312	0.42	30.16	410.731	-0.435	52	3.855	-0.015
04/03/04	3:37 PM	318	0.4	30.16	410.731	-0.435	52	3.855	-0.035
04/03/04	3:43 PM	324	0.44	30.16	410.731	-0.435	52	3.855	0.005
04/03/04	3:49 PM	330	0.42	30.17	410.867	-0.299	52	3.855	0.121
04/03/04	3:55 PM	336	0.44	30.17	410.867	-0.299	52	3.855	0.141
04/03/04	4:01 PM	342	0.49	30.17	410.867	-0.299	52	3.855	0.191
04/03/04	4:07 PM	348	0.49	30.17	410.867	-0.299	52	3.855	0.191
04/03/04	4:13 PM	354	0.33	30.17	410.867	-0.299	52	3.855	0.031
04/03/04	4:19 PM	360	0.28	30.17	410.867	-0.299	52	3.855	-0.019
04/03/04	4:25 PM	366	0.3	30.17	410.867	-0.299	52	3.855	0.001
04/03/04	4:31 PM	372	0.34	30.17	410.867	-0.299	52	3.855	0.041
04/03/04	4:37 PM	378	0.36	30.17	410.867	-0.299	52	3.855	0.061

Table 4-3
Soil Vapor Differential Pressures
Lower Darby Creek Area
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Date	Time	Elapsed Time	Borehole pressure	Atmospheric Pressure	Atmospheric Pressure*	Delta AP**	Temp	Delta T***	Sum of Atmospheric and Borehole pressures
		Minutes	inches H ₂ O	inches Hg	inches H ₂ O	inches H ₂ O	Deg. F	Deg. F	inches H ₂ O
04/03/04	4:43 PM	384	0.46	30.17	410.867	-0.299	52	3.855	0.161
04/03/04	4:49 PM	390	0.4	30.17	410.867	-0.299	52	3.855	0.101
04/03/04	4:55 PM	396	0.33	30.17	410.867	-0.299	52	3.855	0.031
04/03/04	5:01 PM	402	0.31	30.17	410.867	-0.299	52	3.855	0.011
04/03/04	5:07 PM	408	0.31	30.17	410.867	-0.299	52	3.855	0.011
04/03/04	5:13 PM	414	0.32	30.17	410.867	-0.299	52	3.855	0.021
04/03/04	5:19 PM	420	0.27	30.17	410.867	-0.299	52	3.855	-0.029
04/03/04	5:25 PM	426	0.23	30.17	410.867	-0.299	51	2.855	-0.069
04/03/04	5:31 PM	432	0.2	30.18	411.004	-0.162	51	2.855	0.038
04/03/04	5:37 PM	438	0.15	30.18	411.004	-0.162	51	2.855	-0.012
04/03/04	5:43 PM	444	0.14	30.18	411.004	-0.162	51	2.855	-0.022
04/03/04	5:49 PM	450	0.14	30.18	411.004	-0.162	51	2.855	-0.022
04/03/04	5:55 PM	456	0.14	30.19	411.140	-0.026	51	2.855	0.114
04/03/04	6:01 PM	462	0.1	30.19	411.140	-0.026	51	2.855	0.074
04/03/04	6:07 PM	468	0.08	30.19	411.140	-0.026	51	2.855	0.054
04/03/04	6:13 PM	474	0.08	30.19	411.140	-0.026	51	2.855	0.054
04/03/04	6:19 PM	480	0.07	30.19	411.140	-0.026	51	2.855	0.044
04/03/04	6:25 PM	486	0.09	30.19	411.140	-0.026	50	1.855	0.064
04/03/04	6:31 PM	492	0.03	30.19	411.140	-0.026	50	1.855	0.004
04/03/04	6:37 PM	498	0	30.20	411.276	0.110	50	1.855	0.110
04/03/04	6:43 PM	504	0	30.20	411.276	0.110	50	1.855	0.110
04/03/04	6:49 PM	510	0	30.20	411.276	0.110	50	1.855	0.110
04/03/04	6:55 PM	516	0	30.20	411.276	0.110	50	1.855	0.110
04/03/04	7:01 PM	522	0	30.20	411.276	0.110	50	1.855	0.110
04/03/04	7:07 PM	528	0	30.20	411.276	0.110	49	0.855	0.110
04/03/04	7:13 PM	534	0	30.21	411.412	0.246	49	0.855	0.246
04/03/04	7:19 PM	540	0	30.21	411.412	0.246	48	-0.145	0.246
04/03/04	7:25 PM	546	0	30.22	411.548	0.382	48	-0.145	0.382
04/03/04	7:31 PM	552	0	30.22	411.548	0.382	48	-0.145	0.382
04/03/04	7:37 PM	558	0	30.22	411.548	0.382	48	-0.145	0.382
04/03/04	7:43 PM	564	0	30.21	411.412	0.246	48	-0.145	0.246
04/03/04	7:49 PM	570	0	30.21	411.412	0.246	48	-0.145	0.246
04/03/04	7:55 PM	576	0	30.21	411.412	0.246	48	-0.145	0.246
04/03/04	8:01 PM	582	0	30.21	411.412	0.246	48	-0.145	0.246
04/03/04	8:07 PM	588	0	30.21	411.412	0.246	48	-0.145	0.246
04/03/04	8:13 PM	594	0	30.21	411.412	0.246	48	-0.145	0.246
04/03/04	8:19 PM	600	0	30.21	411.412	0.246	48	-0.145	0.246
04/03/04	8:25 PM	606	0	30.22	411.548	0.382	48	-0.145	0.382
04/03/04	8:31 PM	612	0	30.22	411.548	0.382	48	-0.145	0.382
04/03/04	8:37 PM	618	0	30.22	411.548	0.382	48	-0.145	0.382
04/03/04	8:43 PM	624	0	30.22	411.548	0.382	48	-0.145	0.382
04/03/04	8:49 PM	630	0	30.22	411.548	0.382	48	-0.145	0.382
04/03/04	8:55 PM	636	0	30.23	411.685	0.519	48	-0.145	0.519
04/03/04	9:01 PM	642	0.05	30.23	411.685	0.519	48	-0.145	0.569
04/03/04	9:07 PM	648	0.03	30.23	411.685	0.519	48	-0.145	0.549
04/03/04	9:13 PM	654	0	30.23	411.685	0.519	47	-1.145	0.519
04/03/04	9:19 PM	660	0.09	30.23	411.685	0.519	47	-1.145	0.609
04/03/04	9:25 PM	666	0.15	30.23	411.685	0.519	47	-1.145	0.669
04/03/04	9:31 PM	672	0.22	30.22	411.548	0.382	47	-1.145	0.602
04/03/04	9:37 PM	678	0.22	30.22	411.548	0.382	47	-1.145	0.602
04/03/04	9:43 PM	684	0.23	30.22	411.548	0.382	47	-1.145	0.612
04/03/04	9:49 PM	690	0.29	30.21	411.412	0.246	46	-2.145	0.536
04/03/04	9:55 PM	696	0.35	30.21	411.412	0.246	46	-2.145	0.596
04/03/04	10:01 PM	702	0.33	30.21	411.412	0.246	46	-2.145	0.576
04/03/04	10:07 PM	708	0.33	30.21	411.412	0.246	46	-2.145	0.576
04/03/04	10:13 PM	714	0.18	30.21	411.412	0.246	46	-2.145	0.426
04/03/04	10:19 PM	720	0.21	30.21	411.412	0.246	46	-2.145	0.456
04/03/04	10:25 PM	726	0.16	30.21	411.412	0.246	47	-1.145	0.406
04/03/04	10:31 PM	732	0.15	30.21	411.412	0.246	47	-1.145	0.396
04/03/04	10:37 PM	738	0.09	30.21	411.412	0.246	47	-1.145	0.336
04/03/04	10:43 PM	744	0.18	30.21	411.412	0.246	47	-1.145	0.426
04/03/04	10:49 PM	750	0.08	30.20	411.276	0.110	47	-1.145	0.190
04/03/04	10:55 PM	756	0.11	30.20	411.276	0.110	47	-1.145	0.220
04/03/04	11:01 PM	762	0.15	30.20	411.276	0.110	47	-1.145	0.260

Table 4-3
Soil Vapor Differential Pressures
Lower Darby Creek Area
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Date	Time	Elapsed Time	Borehole pressure	Atmospheric Pressure	Atmospheric Pressure*	Delta AP**	Temp	Delta T***	Sum of Atmospheric and Borehole pressures
		Minutes	inches H ₂ O	inches Hg	inches H ₂ O	inches H ₂ O	Deg. F	Deg. F	inches H ₂ O
04/03/04	11:07 PM	768	0.05	30.20	411.276	0.110	47	-1.145	0.160
04/03/04	11:13 PM	774	0.08	30.20	411.276	0.110	47	-1.145	0.190
04/03/04	11:19 PM	780	0.05	30.20	411.276	0.110	47	-1.145	0.160
04/03/04	11:25 PM	786	0.04	30.21	411.412	0.246	47	-1.145	0.286
04/03/04	11:31 PM	792	0	30.21	411.412	0.246	47	-1.145	0.246
04/03/04	11:37 PM	798	0	30.21	411.412	0.246	47	-1.145	0.246
04/03/04	11:43 PM	804	0	30.21	411.412	0.246	47	-1.145	0.246
04/03/04	11:49 PM	810	0	30.21	411.412	0.246	47	-1.145	0.246
04/03/04	11:55 PM	816	0	30.22	411.548	0.382	47	-1.145	0.382
05/03/04	12:01 AM	822	0	30.22	411.548	0.382	47	-1.145	0.382
05/03/04	12:07 AM	828	0	30.22	411.548	0.382	47	-1.145	0.382
05/03/04	12:13 AM	834	0.03	30.22	411.548	0.382	47	-1.145	0.412
05/03/04	12:19 AM	840	0	30.22	411.548	0.382	47	-1.145	0.382
05/03/04	12:25 AM	846	0.03	30.22	411.548	0.382	47	-1.145	0.412
05/03/04	12:31 AM	852	0.03	30.22	411.548	0.382	48	-0.145	0.412
05/03/04	12:37 AM	858	0	30.22	411.548	0.382	48	-0.145	0.382
05/03/04	12:43 AM	864	0	30.22	411.548	0.382	48	-0.145	0.382
05/03/04	12:49 AM	870	0	30.22	411.548	0.382	48	-0.145	0.382
05/03/04	12:55 AM	876	0	30.22	411.548	0.382	48	-0.145	0.382
05/03/04	1:01 AM	882	0	30.22	411.548	0.382	48	-0.145	0.382
05/03/04	1:07 AM	888	0.02	30.22	411.548	0.382	48	-0.145	0.402
05/03/04	1:13 AM	894	0.07	30.22	411.548	0.382	48	-0.145	0.452
05/03/04	1:19 AM	900	0.13	30.22	411.548	0.382	48	-0.145	0.512
05/03/04	1:25 AM	906	0.13	30.22	411.548	0.382	48	-0.145	0.512
05/03/04	1:31 AM	912	0.05	30.22	411.548	0.382	48	-0.145	0.432
05/03/04	1:37 AM	918	0.05	30.22	411.548	0.382	47	-1.145	0.432
05/03/04	1:43 AM	924	0.11	30.22	411.548	0.382	47	-1.145	0.492
05/03/04	1:49 AM	930	0.09	30.22	411.548	0.382	47	-1.145	0.472
05/03/04	1:55 AM	936	0.25	30.22	411.548	0.382	47	-1.145	0.632
05/03/04	2:01 AM	942	0.38	30.22	411.548	0.382	47	-1.145	0.762
05/03/04	2:07 AM	948	0.32	30.22	411.548	0.382	47	-1.145	0.702
05/03/04	2:13 AM	954	0.2	30.22	411.548	0.382	47	-1.145	0.582
05/03/04	2:19 AM	960	0.05	30.22	411.548	0.382	47	-1.145	0.432
05/03/04	2:25 AM	966	0.15	30.22	411.548	0.382	47	-1.145	0.532
05/03/04	2:31 AM	972	0.31	30.22	411.548	0.382	47	-1.145	0.692
05/03/04	2:37 AM	978	0.24	30.22	411.548	0.382	47	-1.145	0.622
05/03/04	2:43 AM	984	0.3	30.22	411.548	0.382	47	-1.145	0.682
05/03/04	2:49 AM	990	0.25	30.22	411.548	0.382	47	-1.145	0.632
05/03/04	2:55 AM	996	0.25	30.22	411.548	0.382	47	-1.145	0.632
05/03/04	3:01 AM	1002	0.21	30.22	411.548	0.382	47	-1.145	0.592
05/03/04	3:07 AM	1008	0.14	30.22	411.548	0.382	47	-1.145	0.522
05/03/04	3:13 AM	1014	0.21	30.22	411.548	0.382	47	-1.145	0.592
05/03/04	3:19 AM	1020	0.31	30.22	411.548	0.382	47	-1.145	0.692
05/03/04	3:25 AM	1026	0.31	30.21	411.412	0.246	47	-1.145	0.556
05/03/04	3:31 AM	1032	0.28	30.21	411.412	0.246	47	-1.145	0.526
05/03/04	3:37 AM	1038	0.25	30.21	411.412	0.246	47	-1.145	0.496
05/03/04	3:43 AM	1044	0.29	30.21	411.412	0.246	47	-1.145	0.536
05/03/04	3:49 AM	1050	0.34	30.21	411.412	0.246	47	-1.145	0.586
05/03/04	3:55 AM	1056	0.34	30.21	411.412	0.246	47	-1.145	0.586
05/03/04	4:01 AM	1062	0.29	30.21	411.412	0.246	47	-1.145	0.536
05/03/04	4:07 AM	1068	0.31	30.21	411.412	0.246	47	-1.145	0.556
05/03/04	4:13 AM	1074	0.26	30.21	411.412	0.246	47	-1.145	0.506
05/03/04	4:19 AM	1080	0.23	30.21	411.412	0.246	47	-1.145	0.476
05/03/04	4:25 AM	1086	0.22	30.21	411.412	0.246	47	-1.145	0.466
05/03/04	4:31 AM	1092	0.24	30.21	411.412	0.246	47	-1.145	0.486
05/03/04	4:37 AM	1098	0.25	30.21	411.412	0.246	47	-1.145	0.496
05/03/04	4:43 AM	1104	0.33	30.21	411.412	0.246	47	-1.145	0.576
05/03/04	4:49 AM	1110	0.49	30.21	411.412	0.246	47	-1.145	0.736
05/03/04	4:55 AM	1116	0.54	30.21	411.412	0.246	47	-1.145	0.786
05/03/04	5:01 AM	1122	0.56	30.21	411.412	0.246	47	-1.145	0.806
05/03/04	5:07 AM	1128	0.53	30.20	411.276	0.110	47	-1.145	0.640
05/03/04	5:13 AM	1134	0.49	30.20	411.276	0.110	46	-2.145	0.600
05/03/04	5:19 AM	1140	0.52	30.20	411.276	0.110	46	-2.145	0.630
05/03/04	5:25 AM	1146	0.66	30.19	411.140	-0.026	46	-2.145	0.634

Table 4-3
Soil Vapor Differential Pressures
Lower Darby Creek Area
Page 4 of 4

Date	Time	Elapsed Time	Borehole pressure	Atmospheric Pressure	Atmospheric Pressure*	Delta AP**	Temp	Delta T***	Sum of Atmospheric and Borehole pressures
		Minutes	inches H ₂ O	inches Hg	inches H ₂ O	inches H ₂ O	Deg. F	Deg. F	inches H ₂ O
05/03/04	5:31 AM	1152	0.56	30.19	411.140	-0.026	46	-2.145	0.534
05/03/04	5:37 AM	1158	0.6	30.19	411.140	-0.026	46	-2.145	0.574
05/03/04	5:43 AM	1164	0.55	30.19	411.140	-0.026	46	-2.145	0.524
05/03/04	5:49 AM	1170	0.6	30.19	411.140	-0.026	46	-2.145	0.574
05/03/04	5:55 AM	1176	0.62	30.19	411.140	-0.026	46	-2.145	0.594
05/03/04	6:01 AM	1182	0.67	30.19	411.140	-0.026	46	-2.145	0.644
05/03/04	6:07 AM	1188	0.67	30.19	411.140	-0.026	46	-2.145	0.644
05/03/04	6:13 AM	1194	0.62	30.19	411.140	-0.026	46	-2.145	0.594
05/03/04	6:19 AM	1200	0.66	30.19	411.140	-0.026	46	-2.145	0.634
05/03/04	6:25 AM	1206	0.61	30.18	411.004	-0.162	46	-2.145	0.448
05/03/04	6:31 AM	1212	0.64	30.18	411.004	-0.162	46	-2.145	0.478
05/03/04	6:37 AM	1218	0.63	30.18	411.004	-0.162	46	-2.145	0.468
05/03/04	6:43 AM	1224	0.66	30.18	411.004	-0.162	46	-2.145	0.498
05/03/04	6:49 AM	1230	0.72	30.18	411.004	-0.162	46	-2.145	0.558
05/03/04	6:55 AM	1236	0.73	30.18	411.004	-0.162	47	-1.145	0.568
05/03/04	7:01 AM	1242	0.79	30.18	411.004	-0.162	47	-1.145	0.628
05/03/04	7:07 AM	1248	0.79	30.18	411.004	-0.162	47	-1.145	0.628
05/03/04	7:13 AM	1254	0.69	30.18	411.004	-0.162	47	-1.145	0.528
05/03/04	7:19 AM	1260	0.69	30.18	411.004	-0.162	47	-1.145	0.528
05/03/04	7:25 AM	1266	0.65	30.17	410.867	-0.299	47	-1.145	0.351
05/03/04	7:31 AM	1272	0.69	30.17	410.867	-0.299	47	-1.145	0.391
05/03/04	7:37 AM	1278	0.72	30.17	410.867	-0.299	47	-1.145	0.421
05/03/04	7:43 AM	1284	0.72	30.17	410.867	-0.299	47	-1.145	0.421
05/03/04	7:49 AM	1290	0.81	30.17	410.867	-0.299	47	-1.145	0.511
05/03/04	7:55 AM	1296	0.77	30.17	410.867	-0.299	47	-1.145	0.471
05/03/04	8:01 AM	1302	0.73	30.17	410.867	-0.299	47	-1.145	0.431
05/03/04	8:07 AM	1308	0.68	30.16	410.731	-0.435	46	-2.145	0.245
05/03/04	8:13 AM	1314	0.74	30.16	410.731	-0.435	46	-2.145	0.305
05/03/04	8:19 AM	1320	0.74	30.16	410.731	-0.435	46	-2.145	0.305
05/03/04	8:25 AM	1326	0.74	30.16	410.731	-0.435	46	-2.145	0.305
05/03/04	8:31 AM	1332	0.79	30.16	410.731	-0.435	46	-2.145	0.355
05/03/04	8:37 AM	1338	0.87	30.16	410.731	-0.435	46	-2.145	0.435
05/03/04	8:43 AM	1344	0.8	30.16	410.731	-0.435	47	-1.145	0.365
05/03/04	8:49 AM	1350	0.84	30.16	410.731	-0.435	47	-1.145	0.405
05/03/04	8:55 AM	1356	0.87	30.16	410.731	-0.435	47	-1.145	0.435

AVERAGE

411.166

48.1454

*Atmospheric Pressure (inches H₂O) = Atmospheric Pressure (inches Hg)/0.07343

** Delta Atmospheric Pressure = (Atmospheric Pressure - Average Atmospheric Pressure During Study Period)

*** Delta Temperature = (Temperature - Average Temperature During Study Period)

Table 4-4					
Vapor Intrusion Analysis of Soil Gas Samples					
Lower Darby Creek Area					
Prepared by Patricia Flores-Brown, USEPA					
2004 Soil Gas Data					
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
VM-01	vent well assume silt loam 0 - 200 cm	chloromethane	6.49E+01	2.11E-01	9.5E+01
		vinyl chloride	6.97E+00	2.27E-02	7.2E-02
		bromomethane	3.79E+00	1.23E-02	5.1E+00
		chloroethane	8.85E+00	2.89E-02	2.2E+00
		carbon disulfide	6.52E+01	2.12E-01	7.3E+02
		2-butanone	1.33E+04	4.32E+01	5.1E+03
		benzene	1.31E+01	4.24E-02	2.3E-01
		1,2-dichloroethane	1.40E+00	4.56E-03	6.9E-02
		tetrachloroethene	3.20E+00	1.04E-02	3.1E-01
		ethylbenzene	2.78E+00	9.02E-03	1.1E+03
		styrene	9.38E-01	3.04E-03	1.0E+03
		4-ethyltoluene	1.19E+00		
		1,3,5-trimethylbenzene	2.52E+00	8.15E-03	6.2E+00
		1,2,4-trimethylbenzene	7.73E+00	2.50E-02	6.2E+00
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
VM-02	vent well assume silt loam 0 - 200 cm	1,2-dichloro-1,1,2,2-tetrafluoroethane	4.25E+01		
		carbon disulfide	2.25E+00	7.32E-03	7.3E+02
		2-butanone	2.16E+02	7.01E-01	5.1E+03
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
VM-03	vent well assume silt loam 0 - 200 cm	2-butanone	1.36E+04	4.42E+01	5.1E+03
		toluene	2.30E+01	7.47E-02	4.2E+02
		ethylbenzene	6.83E+00	2.22E-02	1.1E+03
		m,p-xylene	2.18E+01	7.07E-02	1.1E+02
		o-xylene	7.28E+00	2.37E-02	1.1E+02
		1,3,5-trimethylbenzene	2.01E+00	6.50E-03	6.2E+00
		1,2,4-trimethylbenzene	5.67E+00	1.83E-02	6.2E+00
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
VM-04	vent well assume silt loam 0 - 200 cm	chloromethane	8.44E+00	2.75E-02	9.5E+01
		cis-1,2-dichloroethene	9.97E-01	3.23E-03	3.7E+01
		carbon disulfide	7.18E-01	2.34E-03	7.3E+02
		2-butanone	3.09E+02	1.00E+00	5.1E+03
		benzene	3.35E+01	1.09E-01	2.3E-01
		ethylbenzene	1.46E+00	4.74E-03	1.1E+03
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
VM-05	vent well assume silt loam 0 - 200 cm	chloromethane	1.10E+01	3.58E-02	9.5E+01
		vinyl chloride	1.18E+00	3.84E-03	7.2E-02
		carbon disulfide	1.83E+01	5.95E-02	7.3E+02
		trichloroethene	1.86E+00	6.04E-03	1.6E-02
		tetrachloroethene	5.40E+00	1.75E-02	3.1E-01
		ethylbenzene	3.00E+00	9.73E-03	1.1E+03
		styrene	1.12E+00	3.63E-03	1.0E+03
		4-ethyltoluene	1.80E+00		
		1,3,5-trimethylbenzene	1.08E+00	3.49E-03	6.2E+00
		1,2,4-trimethylbenzene	4.28E+00	1.38E-02	6.2E+00

Table 4-4					
Vapor Intrusion Analysis of Soil Gas Samples					
Lower Darby Creek Area					
Prepared by Patricia Flores-Brown, USEPA					
Location	SCS Soil Classification	Contaminant	Maximum Duplicate Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
VM-06	vent well	chloromethane	2.38E+01	7.75E-02	9.5E+01
DUP of	assume	vinyl chloride	7.23E+00	2.35E-02	7.2E-02
VM-07	silt loam	chloroethane	9.96E+00	3.25E-02	2.2E+00
	0 - 200 cm	carbon disulfide	4.57E+01	1.49E-01	7.3E+02
		2-butanone	1.21E+04	3.91E+01	5.1E+03
		trichloroethene	1.69E+00	5.49E-03	1.6E-02
		tetrachloroethene	1.78E+01	5.76E-02	3.1E-01
		1,2,4-trimethylbenzene	3.92E+00	1.27E-02	6.2E+00
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-82	silt loam	dichlorodifluoromethane	4.82E+01	3.85E-02	1.8E+02
	0 - 457.2 cm	trichlorofluoromethane (F11)	7.07E+02	6.88E-01	7.3E+02
		carbon disulfide	1.57E+00	1.73E-03	7.3E+02
		2-butanone	4.95E+01	4.67E-02	5.1E+03
		chloroform	8.19E+00	9.00E-03	7.7E-02
		1,1,1-trichloroethane	7.43E+00	6.68E-03	2.3E+03
		tetrachloroethene	8.53E+00	7.24E-03	3.1E-01
		styrene	1.47E+00	1.23E-03	1.0E+03
		1,4-dichlorobenzene	6.93E+00	5.70E-03	2.8E-01
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-83	silt loam	chloromethane	8.44E+00	9.78E-03	9.5E+01
	0 - 487.68 cm	1,2-dichloro-1,1,2,2-tetrafluoroethane	1.91E+00		
		bromomethane	8.96E-01	7.05E-04	5.1E+00
		cis-1,2-dichloroethene	8.73E-01	6.92E-04	3.7E+01
		carbon disulfide	5.55E+01	5.65E-02	7.3E+02
		2-butanone	6.18E+01	5.38E-02	5.1E+03
		chloroform	1.18E+00	1.20E-03	7.7E-02
		benzene	2.48E+01	2.25E-02	2.3E-01
		4-methyl-2-pentanone	1.89E+01	1.53E-02	3.1E+03
		tetrachloroethene	1.14E+01	8.89E-03	3.1E-01
		ethylbenzene	5.01E+00	4.03E-03	1.1E+03
		styrene	3.66E+00	2.83E-03	1.0E+03
		4-ethyltoluene	2.63E+00		
		1,3,5-trimethylbenzene	2.27E+00	1.54E-03	6.2E+00
		1,4-dichlorobenzene	8.82E+00	6.66E-03	2.8E-01
		MTBE	7.94E+01	8.01E-02	1.6E+00
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-84	silt loam	1,2-dichloro-1,1,2,2-tetrafluoroethane	1.91E+00		
	0 - 487.68 cm	bromomethane	8.96E-01	7.05E-04	5.1E+00
		1,1,2-trichloro-1,2,2-trifluoroethane	1.77E+00	1.46E-03	3.1E+04
		2-butanone	5.56E+01	4.84E-02	5.1E+03
		tetrachloroethene	3.55E+00	2.77E-03	3.1E-01
		2-hexanone	1.03E+01		
		chlorobenzene	1.35E+00	1.06E-03	6.2E+01
		styrene	1.65E+00	1.27E-03	1.0E+03
		4-ethyltoluene	1.29E+00		
		1,3,5-trimethylbenzene	1.24E+00	8.42E-04	6.2E+00
		1,4-dichlorobenzene	4.47E+00	3.38E-03	2.8E-01

Table 4-4					
Vapor Intrusion Analysis of Soil Gas Samples					
Lower Darby Creek Area					
Prepared by Patricia Flores-Brown, USEPA					
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-85	silt loam 0 - 487.68 cm	1,2-dichloro-1,1,2,2-tetrafluoroethane	1.03E+01		
		carbon disulfide	2.94E+00	3.00E-03	7.3E+02
		1,4-dichlorobenzene	2.46E+00	1.86E-03	2.8E-01
		MTBE	4.16E+01	4.20E-02	1.6E+00
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-86	silt loam 0 - 396.24 cm	1,1-dichloroethane	6.79E+01	7.13E-02	5.1E+02
		chloroform	3.07E+00	4.01E-03	7.7E-02
		1,1,1-trichloroethane	1.14E+02	1.24E-01	2.3E+03
		trichloroethene	3.44E+00	3.77E-03	1.6E-02
		tetrachloroethene	9.24E+00	9.51E-03	3.1E-01
		4-ethyltoluene	2.22E+00		
		1,3,5-trimethylbenzene	2.06E+00	1.87E-03	6.2E+00
		1,4-dichlorobenzene	3.47E+00	3.47E-03	2.8E-01
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-87	silt loam 0 - 457.2 cm	toluene	4.36E+01	4.24E-02	4.2E+02
		tetrachloroethene	5.19E+00	4.40E-03	3.1E-01
		ethylbenzene	1.23E+01	1.08E-02	1.1E+03
		m,p-xylene	4.23E+01	3.51E-02	1.1E+02
		styrene	2.72E+00	2.28E-03	1.0E+03
		o-xylene	1.78E+01	1.73E-02	1.1E+02
		4-ethyltoluene	4.74E+00		
		1,3,5-trimethylbenzene	5.67E+00	4.20E-03	6.2E+00
		1,2,4-trimethylbenzene	1.29E+01	9.61E-03	6.2E+00
		1,4-dichlorobenzene	5.48E+00	1.82E-03	2.8E-01
		Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3
GP-88	silt loam 0 - 670.56 cm	dichlorodifluoromethane	1.71E+01	8.40E-03	1.8E+02
		1,2-dichloro-1,1,2,2-tetrafluoroethane	1.69E+00		
		carbon disulfide	1.08E+00	7.65E-04	7.3E+02
		1,1,2-trichloro-1,2,2-trifluoroethane	1.85E+00	1.04E-03	5.1E+03
		2-butanone	1.42E+02	8.42E-02	5.1E+03
		chloroform	1.54E+00	1.09E-03	7.7E-02
		ethylbenzene	5.92E+00	3.22E-03	1.1E+03
		m,p-xylene	3.87E+01	1.99E-02	1.1E+02
		o-xylene	1.68E+01	1.03E-02	1.1E+02
		4-ethyltoluene	1.60E+01		
		1,3,5-trimethylbenzene	2.16E+01	9.75E-03	6.2E+00
		1,2,4-trimethylbenzene	5.67E+01	2.57E-02	6.2E+00
		1,4-dichlorobenzene	2.21E+00	1.12E-03	2.8E-01
Location	SCS Soil Classification	Contaminant	Maximum Duplicate Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-89 DUP of	silt loam 0 - 487.68 cm	trichlorofluoromethane (F11)	2.83E+01	2.54E-02	7.3E+02
		tetrachloroethene	8.53E+00	6.65E-03	3.1E-01
GP-113		styrene	2.64E+00	2.04E-03	1.0E+03
		carbon disulfide	5.55E+01	5.65E-02	7.3E+02
		1,4-dichlorobenzene	1.89E+00	1.43E-03	2.8E-01

Table 4-4					
Vapor Intrusion Analysis of Soil Gas Samples					
Lower Darby Creek Area					
Prepared by Patricia Flores-Brown, USEPA					
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-90	silt loam 0 - 487.68 cm	carbon disulfide	6.85E+00	6.98E-03	7.3E+02
		2-butanone	3.00E+01	2.61E-02	5.1E+03
		1,3,5-trimethylbenzene	1.19E+00	8.08E-04	6.2E+00
		1,4-dichlorobenzene	2.46E+00	1.86E-03	2.8E-01
		MTBE	2.23E+01	2.25E-02	1.6E+00
Location	SCS Soil Classification	Contaminant	Maximum Duplicate Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-91	silt loam	carbon disulfide	1.24E+00	1.78E-03	7.3E+02
DUP of GP-111	0 - 365.76 cm	acetone	2.06E+02	3.31E-01	3.3E+03
		2-butanone	5.25E+01	6.63E-02	5.1E+03
		tetrachloroethene	1.56E+00	1.80E-03	3.1E-01
		ethylbenzene	6.37E+00	7.53E-03	1.1E+03
		m,p-xylene	2.73E+01	3.09E-02	1.1E+02
		styrene	2.37E+00	2.71E-03	1.0E+03
		o-xylene	8.65E+00	1.12E-02	1.1E+02
		4-ethyltoluene	4.23E+00		
		1,3,5-trimethylbenzene	5.15E+00	5.26E-03	6.2E+00
		1,2,4-trimethylbenzene	1.75E+01	1.80E-02	6.2E+00
		1,4-dichlorobenzene	3.59E+00	4.02E-03	2.8E-01
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-92	silt loam 0 - 365.76 cm	cis-1,2-dichloroethene	1.62E+00	1.89E-03	3.7E+01
		carbon disulfide	3.91E+00	5.63E-03	7.3E+02
		2-butanone	1.42E+02	1.79E-01	5.1E+03
		trichloroethene	9.58E+00	1.17E-02	1.6E-02
		tetrachloroethene	8.53E+00	9.83E-03	3.1E-01
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-93	silt loam 0 - 365.76 cm	carbon disulfide	6.52E+00	9.38E-03	7.3E+02
		benzene	1.57E+01	2.05E-02	2.3E-01
		toluene	2.30E+01	2.98E-02	4.2E+02
		ethylbenzene	6.37E+00	7.54E-03	1.1E+03
		m,p-xylene	2.91E+01	3.29E-02	1.1E+02
		o-xylene	8.65E+00	1.12E-02	1.1E+02
		4-ethyltoluene	4.33E+00		
		1,3,5-trimethylbenzene	2.89E+00	2.95E-03	6.2E+00
		1,2,4-trimethylbenzene	9.79E+00	1.01E-02	6.2E+00
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-94	silt loam 0 - 228.6 cm	1,2-dichloro-1,1,2,2-tetrafluoroethane	1.03E+01		
		vinyl chloride	1.18E+00	3.18E-03	7.2E-02
		cis-1,2-dichloroethene	1.29E+01	3.22E-02	3.7E+01
		trans-1,2-dichloroethene	4.57E+00	1.13E-02	7.3E+01
		benzene	1.67E+01	4.34E-02	2.3E-01
		trichloroethene	6.20E+00	1.58E-02	1.6E-02
		tetrachloroethene	1.07E+01	2.66E-02	3.1E-01
		ethylbenzene	2.78E+00	6.98E-03	1.1E+03
		1,4-dichlorobenzene	2.77E+00	6.82E-03	2.8E-01

Table 4-4						
Vapor Intrusion Analysis of Soil Gas Samples						
Lower Darby Creek Area						
Prepared by Patricia Flores-Brown, USEPA						
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-95	silt loam 0 - 487.68 cm	carbon disulfide	3.59E+01	3.66E-02	7.3E+02	
		1,1-dichloroethane	9.76E+01	7.79E-02	5.1E+02	
		toluene	3.96E+01	3.56E-02	4.2E+02	
		tetrachloroethene	3.48E+00	2.71E-03	3.1E-01	
		ethylbenzene	7.74E+00	6.23E-03	1.1E+03	
		m,p-xylene	2.55E+01	1.95E-02	1.1E+02	
		styrene	1.52E+00	1.17E-03	1.0E+03	
		o-xylene	9.56E+00	8.59E-03	1.1E+02	
		4-ethyltoluene	3.56E+00			
		1,3,5-trimethylbenzene	3.66E+00	2.48E-03	6.2E+00	
		1,2,4-trimethylbenzene	9.79E+00	6.68E-03	6.2E+00	
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-96	silt loam 0 - 487.68 cm	carbon disulfide	1.21E+01	1.23E-02	7.3E+02	
		acetone	2.14E+02	2.50E-02	3.3E+03	
		benzene	2.85E+01	2.58E-02	2.3E-01	
		toluene	1.15E+02	1.03E-01	4.2E+02	
		tetrachloroethene	1.49E+01	1.16E-02	3.1E-01	
		ethylbenzene	2.28E+01	1.83E-02	1.1E+03	
		m,p-xylene	8.19E+01	6.25E-02	1.1E+02	
		styrene	1.61E+00	1.24E-03	1.0E+03	
		o-xylene	2.32E+01	2.09E-02	1.1E+02	
		4-ethyltoluene	9.79E+00			
		1,3,5-trimethylbenzene	3.97E+00	2.69E-03	6.2E+00	
		1,2,4-trimethylbenzene	1.80E+01	1.23E-02	6.2E+00	
		1,4-dichlorobenzene	2.39E+00	1.81E-03	2.8E-01	
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-98	silt loam 0 - 487.68 cm	dichlorodifluoromethane	2.28E+01	1.67E-02	1.8E+02	
		trichlorofluoromethane (F11)	1.00E+01	8.98E-03	7.3E+02	
		carbon disulfide	7.50E+01	7.64E-02	7.3E+02	
		chloroform	3.33E+00	3.39E-03	7.7E-02	
		1,1,1-trichloroethane	2.06E+00	1.71E-03	2.3E+03	
		benzene	4.69E+02	4.24E-01	2.3E-01	
		toluene	6.34E+02	5.69E-01	4.2E+02	
		tetrachloroethene	1.21E+01	9.44E-03	3.1E-01	
		ethylbenzene	8.19E+01	6.59E-02	1.1E+03	
		m,p-xylene	4.55E+02	3.47E-01	1.1E+02	
		styrene	2.99E+01	2.31E-02	1.0E+03	
		o-xylene	2.32E+02	2.08E-01	1.1E+02	
		4-ethyltoluene	5.10E+01			
		1,3,5-trimethylbenzene	7.21E+01	4.89E-02	6.2E+00	
1,2,4-trimethylbenzene	8.24E+01	5.62E-02	6.2E+00			
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-101	silt loam 0 - 457.2 cm	carbon disulfide	3.91E+00	4.30E-03	7.3E+02	
		2-butanone	1.33E+02	1.26E-01	5.1E+03	
		tetrachloroethene	2.63E+00	2.23E-03	3.1E-01	
		ethylbenzene	6.37E+00	5.57E-03	1.1E+03	
		m,p-xylene	3.14E+01	2.61E-02	1.1E+02	
		styrene	1.25E+00	1.05E-03	1.0E+03	
		4-ethyltoluene	4.17E+00			
		1,3,5-trimethylbenzene	3.19E+00	2.37E-03	6.2E+00	
		1,2,4-trimethylbenzene	1.13E+01	8.42E-03	6.2E+00	
		1,4-dichlorobenzene	1.64E+00	1.35E-03	2.8E-01	

Table 4-4					
Vapor Intrusion Analysis of Soil Gas Samples					
Lower Darby Creek Area					
Prepared by Patricia Flores-Brown, USEPA					
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-102	silt loam 0 - 487.68 cm	carbon disulfide	1.30E+00	1.32E-03	7.3E+02
		tetrachloroethene	1.78E+00	1.39E-03	3.1E-01
		ethylbenzene	5.46E+00	4.39E-03	1.1E+03
		m,p-xylene	2.78E+01	2.12E-02	1.1E+02
		styrene	9.83E-01	7.59E-04	1.0E+03
		4-ethyltoluene	4.53E+00		
		1,3,5-trimethylbenzene	3.86E+00	2.62E-03	6.2E+00
		1,2,4-trimethylbenzene	1.29E+01	8.80E-03	6.2E+00
		1,4-dichlorobenzene	2.84E+00	2.15E-03	2.8E-01
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-103	silt loam 0 - 609.6 cm	carbon disulfide	1.24E+00	9.78E-04	7.3E+02
		tetrachloroethene	1.42E+00	8.37E-04	3.1E-01
		m,p-xylene	2.50E+01	1.44E-02	1.1E+02
		4-ethyltoluene	3.09E+00		
		1,3,5-trimethylbenzene	2.47E+00	1.25E-03	6.2E+00
		1,4-dichlorobenzene	2.27E+00	1.29E-03	2.8E-01
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-104	silt loam 0 - 701.04 cm	carbon disulfide	1.50E+00	1.01E-03	7.3E+02
		chloroform	7.17E+00	4.83E-03	7.7E-02
		1,1,1-trichloroethane	1.66E+01	8.85E-03	2.3E+03
		trichloroethene	2.08E+00	1.12E-03	1.6E-02
		toluene	6.73E+01	3.93E-02	4.2E+02
		1,1,2-trichloroethane	5.38E+00	2.87E-03	1.1E-01
		tetrachloroethene	4.55E+01	2.27E-02	3.1E-01
		ethylbenzene	1.27E+01	6.55E-03	1.1E+03
		m,p-xylene	3.82E+01	1.86E-02	1.1E+02
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-105	silt loam 0 - 548.64 cm	chloromethane	9.52E+00	9.70E-03	9.5E+01
		carbon disulfide	1.37E+01	1.22E-02	7.3E+02
		vinyl acetate	3.65E+01	2.80E-02	2.1E+02
		tetrachloroethene	1.78E+00	1.20E-03	3.1E-01
		styrene	1.74E+00	1.16E-03	1.0E+03
		4-ethyltoluene	2.42E+00		
		1,3,5-trimethylbenzene	2.52E+00	1.46E-03	6.2E+00
		1,4-dichlorobenzene	6.93E+00	4.50E-03	2.8E-01
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-106	silt loam 0 - 365.76 cm	dichlorodifluoromethane	2.64E+01	2.89E-02	1.8E+02
		carbon disulfide	1.47E+00	2.12E-03	7.3E+02
		chloroform	3.53E+01	5.08E-02	7.7E-02
		1,1,1-trichloroethane	1.54E+01	1.87E-02	2.3E+03
		tetrachloroethene	1.42E+01	1.64E-02	3.1E-01
		styrene	1.07E+00	1.22E-03	1.0E+03
		4-ethyltoluene	2.22E+00		
		1,3,5-trimethylbenzene	1.91E+00	1.95E-03	6.2E+00
		1,4-dichlorobenzene	1.39E+00	1.56E-03	2.8E-01

Table 4-4					
Vapor Intrusion Analysis of Soil Gas Samples					
Lower Darby Creek Area					
Prepared by Patricia Flores-Brown, USEPA					
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-107	silt loam 0 - 548.64 cm	2-butanone	4.33E+01	3.26E-02	5.1E+03
		benzene	6.36E+01	4.99E-02	2.3E-01
		toluene	1.03E+02	8.02E-02	4.2E+02
		tetrachloroethene	1.56E+00	1.05E-03	3.1E-01
		ethylbenzene	3.69E+01	2.56E-02	1.1E+03
		m,p-xylene	1.55E+02	1.02E-01	1.1E+02
		styrene	1.92E+01	1.28E-02	1.0E+03
		o-xylene	4.51E+01	3.51E-02	1.1E+02
		4-ethyltoluene	2.11E+01		
		1,3,5-trimethylbenzene	2.47E+01	1.44E-02	6.2E+00
		1,2,4-trimethylbenzene	7.21E+01	4.21E-02	6.2E+00
		MTBE	6.05E+01	5.33E-02	1.6E+00
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-108	silt loam 0 - 609.6 cm	4-ethyltoluene	2.27E+00		
		1,3,5-trimethylbenzene	2.16E+00	1.10E-03	6.2E+00
		1,2,4-trimethylbenzene	8.76E+00	4.47E-03	6.2E+00
		1,4-dichlorobenzene	2.02E+00	1.15E-03	2.8E-01
Location	SCS Soil Classification	Contaminant	Maximum Duplicate Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-109	silt loam 0 - 548.64 cm	carbon disulfide	8.48E+00	7.54E-03	7.3E+02
		chloroform	6.65E+01	5.92E-02	7.7E-02
GP-112		1,1,1-trichloroethane	2.40E+00	1.72E-03	2.3E+03
		benzene	3.35E+01	2.63E-02	2.3E-01
		tetrachloroethene	8.53E+00	5.73E-03	3.1E-01
		ethylbenzene	7.74E+00	5.37E-03	1.1E+03
		styrene	3.98E+00	2.64E-03	1.0E+03
		o-xylene	9.56E+00	7.44E-03	1.1E+02
		1,1,2,2-tetrachloroethane	5.26E+00	3.49E-03	3.1E-02
		4-ethyltoluene	3.81E+00		
		1,3,5-trimethylbenzene	7.73E+00	4.49E-03	6.2E+00
		1,2,4-trimethylbenzene	1.65E+01	9.63E-03	6.2E+00
		1,4-dichlorobenzene	2.21E+00	1.44E-03	2.8E-01
dichlorodifluoromethane	1.87E+01	1.18E-02	1.8E+02		
Location	SCS Soil Classification	Contaminant	Soil Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-110	silt loam 0 - 548.64 cm	vinyl acetate	2.92E+00	2.24E-03	2.1E+02
		1,1,1-trichloroethane	7.43E+00	5.32E-03	2.3E+03
		tetrachloroethene	1.49E+01	1.00E-02	3.1E-01
		ethylbenzene	3.10E+00	2.15E-03	1.1E+03
		m,p-xylene	1.55E+01	1.02E-02	1.1E+02
		4-ethyltoluene	2.16E+00		
		1,2,4-trimethylbenzene	4.90E+00	2.86E-03	6.2E+00

Table 4-4					
Vapor Intrusion Analysis of Soil Gas Samples					
Lower Darby Creek Area					
Prepared by Patricia Flores-Brown, USEPA					
2003 Soil Gas Data					
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-02	0 - 229 cm silt	1,2,4-trimethylbenzene	7.30E+00	4.21E-03	6.2E+00
		229 - 390 cm sand	1,3,5-trimethylbenzene	2.40E+00	1.38E-03
	390 - 427 cm silt	1,4-dichlorobenzene	6.90E+00	4.43E-03	2.8E-01
		benzene	4.60E+00	3.57E-03	2.2E-01
		chloromethane	1.30E+00	1.31E-03	1.8E+00
		dichlorodifluoromethane	2.60E+00	1.62E-03	1.8E+02
		ethylbenzene	1.80E+00	1.23E-03	1.6E+00
		m-xylene	9.00E+00	5.84E-03	7.3E+03
		p-xylene	9.00E+00	6.29E-03	7.3E+03
		o-xylene	3.40E+00	2.62E-03	7.3E+03
		toluene	7.60E+00	5.85E-03	4.2E+02
		trichloroethene	1.60E+00	1.14E-03	1.6E-02
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-03	0 - 122 cm silt	1,1,1-trichloroethane	2.70E+00	2.19E-03	2.3E+03
		122 - 274 cm sand	1,1-dichloroethane	1.40E+00	1.10E-03
	274 366 cm silt	1,2,4-trimethylbenzene	1.00E+01	6.68E-03	6.2E+00
		1,3,5-trimethylbenzene	3.10E+00	2.06E-03	6.2E+00
		benzene	3.80E+00	3.38E-03	2.2E-01
		chloroethane	1.60E+00	2.80E-03	2.2E+00
		chloromethane	1.10E+00	1.25E-03	1.8E+00
		dichlorodifluoromethane	2.50E+00	1.80E-03	1.8E+02
		ethylbenzene	3.60E+00	2.84E-03	1.6E+00
		m-xylene	1.70E+01	1.27E-02	7.3E+03
		p-xylene	1.70E+01	1.37E-02	7.3E+03
		o-xylene	6.30E+00	5.55E-03	7.3E+03
		toluene	1.40E+01	1.23E-02	4.2E+02
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-04	0 - 366 cm sand	1,2,4-trimethylbenzene	7.00E+00	6.01E-03	6.2E+00
		1,3,5-trimethylbenzene	1.90E+00	1.62E-03	6.2E+00
		benzene	1.50E+00	1.67E-03	2.2E-01
		chloromethane	1.30E+00	1.81E-03	1.8E+00
		dichlorodifluoromethane	2.60E+00	2.39E-03	1.8E+02
		m-xylene	4.40E+00	4.20E-03	7.3E+03
		p-xylene	4.40E+00	4.48E-03	7.3E+03
		o-xylene	2.10E+00	2.32E-03	7.3E+03
		toluene	5.60E+01	6.20E-02	4.2E+02
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-05	0 - 262 cm silt	benzene	5.30E+00	3.14E-03	2.2E-01
		262 - 296 cm clay	chloromethane	1.20E+00	9.45E-04
	296 - 573 cm sand	dichlorodifluoromethane	2.50E+00	1.17E-03	1.8E+02
		tetrachloroethene	1.60E+00	8.03E-04	6.3E-01
		toluene	2.60E+00	1.53E-03	4.2E+02
		trichloroethene	2.00E+00	1.08E-03	1.6E-02

Table 4-4						
Vapor Intrusion Analysis of Soil Gas Samples						
Lower Darby Creek Area						
Prepared by Patricia Flores-Brown, USEPA						
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-06	0 - 267 cm silt 267 - 381 cm sand 381 - 442 cm clay	1,2,4-trimethylbenzene	6.40E+00	2.94E-03	6.2E+00	
		1,3,5-trimethylbenzene	2.00E+00	9.13E-04	6.2E+00	
		benzene	4.20E+00	2.63E-03	2.2E-01	
		chloromethane	1.20E+00	9.95E-04	1.8E+00	
		dichlorodifluoromethane	2.80E+00	1.39E-03	1.8E+02	
		ethylbenzene	1.40E+00	7.69E-04	1.6E+00	
		m-xylene	8.10E+00	4.20E-03	7.3E+03	
		p-xylene	8.10E+00	4.55E-03	7.3E+03	
		o-xylene	3.60E+00	2.24E-03	7.3E+03	
		toluene	1.10E+01	6.83E-03	4.2E+02	
		trichloroethene	1.40E+00	8.03E-04	1.6E-02	
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-07	0 - 168 cm silt 168 - 229 cm sand 229 - 427 cm clay	1,2,4-trimethylbenzene	5.00E+00	1.73E-03	6.2E+00	
		acetone	1.20E+02	7.96E-02	3.7E+02	
		benzene	1.30E+01	6.23E-03	2.2E-01	
		chloroform	1.00E+01	5.52E-03	7.7E-02	
		m-xylene	9.00E+00	3.54E-03	7.3E+03	
		p-xylene	9.00E+00	3.84E-03	7.3E+03	
		o-xylene	4.00E+00	1.90E-03	7.3E+03	
		toluene	1.90E+01	9.01E-03	4.2E+02	
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-08	0 - 320 cm loamy sand 320 - 594 cm sand	1,2,4-trimethylbenzene	5.00E+00	2.71E-03	6.2E+00	
		acetone	9.20E+01	8.70E-02	3.7E+02	
		chloroform	1.50E+01	1.25E-02	7.7E-02	
		m-xylene	4.00E+00	2.44E-03	7.3E+03	
		p-xylene	4.00E+00	2.63E-03	7.3E+03	
		tetrachloroethene	2.10E+01	1.31E-02	6.3E-01	
		toluene	1.90E+01	1.38E-02	4.2E+02	
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-10	0 - 488 cm loamy sand 488 - 732 cm sand	1,1,1,2-tetrafluoroethane	1.60E+01	-----		
		1,1,1-trichloroethane	1.10E+01	6.06E-03	2.3E+03	
		acetone	6.30E+01	5.02E-02	3.7E+02	
		benzene	7.00E+00	4.26E-03	2.2E-01	
		chlorobenzene	2.30E+01	1.20E-02	6.2E+01	
		dichlorodifluoromethane	2.50E+01	1.20E-02	1.8E+02	
		m-xylene	4.00E+00	2.01E-03	7.3E+03	
		p-xylene	4.00E+00	2.18E-03	7.3E+03	
		methyl ethyl ketone	9.00E+00	5.11E-03	1.0E+03	
		tetrachloroethene	1.40E+01	7.21E-03	6.3E-01	
		toluene	8.00E+00	4.82E-03	4.2E+02	
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-11	0 - 274 cm silt 274 - 610 cm sand	1,2,4-trimethylbenzene	1.00E+01	4.56E-03	6.2E+00	
		1,3,5-trimethylbenzene	5.00E+00	2.27E-03	6.2E+00	
		acetone	4.10E+01	3.36E-02	3.7E+02	
		chloroform	4.00E+01	2.85E-02	7.7E-02	
		cis-1,2-dichloroethene	8.00E+00	4.30E-03	3.7E+01	
		methyl ethyl ketone	9.00E+00	5.26E-03	1.0E+03	
		tetrachloroethene	2.10E+01	1.11E-02	6.3E-01	
		trichloroethene	1.10E+01	6.27E-03	1.6E-02	

Table 4-4						
Vapor Intrusion Analysis of Soil Gas Samples						
Lower Darby Creek Area						
Prepared by Patricia Flores-Brown, USEPA						
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-12	0 to 244 cm silty clay	1,2,4-trimethylbenzene	5.00E+00	8.37E-04	6.2E+00	
	244 - 305 cm sand	1,4-dichlorobenzene	4.30E+01	1.55E-02	2.8E-01	
	305 to 427 cm silty clay	acetone	6.50E+01	4.02E-02	3.7E+02	
		benzene	3.00E+00	1.33E-03	2.2E-01	
		chlorobenzene	3.80E+01	1.43E-03	6.2E+01	
		chloromethane	4.00E+00	2.40E-03	1.8E+00	
		m-xylene	4.00E+00	1.45E-03	7.3E+03	
		p-xylene	4.00E+00	1.58E-03	7.3E+03	
		methyl ethyl ketone	6.00E+00	1.72E-03	1.0E+03	
		toluene	1.10E+01	4.84E-03	4.2E+02	
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-13	0 - 229 cm loamy sand	1,2,4-trimethylbenzene	2.00E+01	7.59E-03	6.2E+00	
	229 - 549 cm sandy loam	benzene	1.60E+01	8.38E-03	2.2E-01	
		549 - 610 cm silty clay	benzyl chloride	1.60E+01	7.33E-03	3.7E-02
		ethylbenzene	1.30E+01	5.95E-03	1.6E+00	
		m-xylene	2.60E+01	1.12E-02	7.3E+03	
		p-xylene	2.60E+01	1.21E-02	7.3E+03	
		o-xylene	1.30E+01	6.75E-03	7.3E+03	
		toluene	3.10E+01	1.61E-02	4.2E+02	
	Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
	GP-14	0 - 122 cm silty clay	1,2,4-trimethylbenzene	1.00E+01	3.00E-03	6.2E+00
122 - 427 cm loamy sand		benzene	1.00E+01	4.19E-03	2.2E-01	
		427 - 975 cm sand	m-xylene	1.30E+01	4.45E-03	7.3E+03
		p-xylene	1.30E+01	4.83E-03	7.3E+03	
		toluene	2.30E+01	9.53E-03	4.2E+02	
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-15	0 -76 cm sandy loam	1,2,4-trimethylbenzene	3.50E+01	6.59E-03	6.2E+00	
	76 - 549 cm clay	m-xylene	4.40E+01	9.49E-03	7.3E+03	
		p-xylene	4.40E+01	1.04E-02	7.3E+03	
	549 - 731 cm sand	toluene	5.40E+01	1.42E-02	4.2E+02	
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-16	0 - 229 cm silty clay	acetone	2.70E+01	1.66E-02	3.7E+02	
	229 - 701 cm sand	benzene	9.70E+01	4.36E-02	2.2E-01	
		chloroform	6.40E+02	3.32E-01	7.7E-02	
		toluene	5.00E+01	2.23E-02	4.2E+02	
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3	
GP-17	0 - 488 cm loamy sand	1,2,4-trimethylbenzene	1.00E+01	4.14E-04	6.2E+00	
	488 - 549 cm silt loam	4-ethyltoluene	1.00E+01			
		549 - 594 cm silty clay	acetone	3.60E+01	2.73E-02	3.7E+02
		benzene	7.00E+00	3.98E-03	2.2E-01	
		chloroform	1.50E+01	9.78E-03	7.7E-02	
		ethylbenzene	4.00E+00	1.99E-03	1.6E+00	
		m-xylene	1.30E+01	6.10E-03	7.3E+03	
		p-xylene	1.30E+01	6.61E-03	7.3E+03	
		o-xylene	4.00E+00	2.26E-03	7.3E+03	
		styrene	3.00E+00	1.43E-03	1.0E+03	
		toluene	2.30E+01	1.30E-02	4.2E+02	

Table 4-4					
Vapor Intrusion Analysis of Soil Gas Samples					
Lower Darby Creek Area					
Prepared by Patricia Flores-Brown, USEPA					
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-44	0 - 244 cm sandy loam	1,2,4-trimethylbenzene	1.00E+01	8.32E-03	6.2E+00
		4-ethyltoluene	1.00E+01		
		acetone	1.20E+02	1.62E-01	3.7E+02
		benzene	3.00E+00	3.25E-03	2.2E-01
		chlorobenzene	9.00E+00	8.57E-03	6.2E+01
		m-xylene	9.00E+00	8.32E-03	7.3E+03
		p-xylene	9.00E+00	8.89E-03	7.3E+03
		methyl ethyl ketone	1.50E+01	1.54E-02	1.0E+03
		o-xylene	4.00E+00	4.30E-03	7.3E+03
		toluene	1.10E+01	1.18E-02	4.2E+02
Location	SCS Soil Classification	Contaminant	Soil-Gas Conc. ug/m3	Indoor Air Conc. ug/m3	RBC ug/m3
GP-81	0 - 305 cm sandy loam	1,2,4-trimethylbenzene	1.50E+01	1.04E-02	6.2E+00
		1,4-dichlorobenzene	5.00E+00	3.84E-03	2.8E-01
		4-ethyltoluene	1.00E+01		
		acetone	2.90E+01	3.38E-02	3.7E+02
		benzene	3.00E+00	2.76E-03	2.2E-01
		chlorobenzene	9.00E+00	7.21E-03	6.2E+01
		m-xylene	9.00E+00	6.98E-03	7.3E+03
		p-xylene	9.00E+00	7.50E-03	7.3E+03
		o-xylene	4.00E+00	3.65E-03	7.3E+03
		toluene	1.50E+01	1.37E-02	4.2E+02

Table 4-5
Sediment Grain Sizes and Classification
Lower Darby Creek Area

	Sample Location	50% Passage Size (mm)	Classification*
Darby Creek Upstream of the Landfill	SD01	0.056	silt
	SD101 (duplicate of SD01)	0.075	very fine sand
	SD02	0.210	fine sand
	SD03	0.160	fine sand
	SD04	0.150	fine sand
	SD05	0.080	very fine sand
	SD06	0.140	fine sand
	SD07	0.180	fine sand
	SD08	0.180	fine sand
	SD09	0.090	very fine sand
Cobbs Creek	SD10	0.100	very fine sand
	SD11	0.090	very fine sand
	SD12	0.055	silt
	SD13	0.041	silt
	SD14	0.410	medium sand
	SD15	0.280	medium sand
	SD150 (duplicate of SD15)	0.280	medium sand
	SD16	0.200	fine sand
	SD17	0.250	fine sand/medium silt
SD18	1.100	very coarse sand	
Adjacent to Clearview Landfill	SD19	0.160	fine sand
	SD20	0.070	very fine sand
	SD21	0.028	silt
	SD22	0.800	coarse sand
	SD23	0.017	silt
	SD24	0.200	fine sand
Darby Creek Downstream of the Landfill	SD25	0.043	medium sand
	SD26	0.024	silt
	SD260 (duplicate of SD26)	0.095	very fine sand
	SD27	0.090	very fine sand
	SD28	0.024	silt
	SD29	0.280	medium sand
	SD30	0.380	medium sand
Tinicum Marsh	SD31	0.011	silt
	SD32	0.018	silt
	SD320 (duplicate of SD32)	0.012	silt
	SD33	-	
	SD34	0.011	silt
	SD35	0.018	silt
	SD36	0.016	silt
	SD37	0.025	silt
SD38	-		

* Sediment classification from Wentworth, Journal of Geology (1922).

Table 4-6a
 Substances Detected in Sediment Samples Collected in Tinicum Marsh
 Lower Darby Creek Area
 2 of 8

	Analyte Sampling Date	cas n	Units	Basis	RBC*	ESV**	SD35	SD34	SD31	SD37	SD38	SD33	SD30	SD30	SD32	SD36	SD29	SD28	SD28
							May-02	Oct-05	May-02	May-02	May-02	May-02							
TOC	acid volatile sulfide	AVS	umoles/g				6	0.65 J	2.9	3.2	4	4.3	3.7		3.3	2.3	3.1	2.9	
	total organic carbon	TOC	mg/Kg				16100	24300	20400	17000	20900	15000	16800	42800	19100	13900	19100	24600 J	41900
VOC	1,4-dichlorobenzene	106-46-7	ug/Kg	CA	2700000	599			7 J				8 J				22 J		
	2-hexanone	591-78-6	ug/Kg																
	acetone	67-64-1	ug/Kg	NC	70000000		110	55	120		18 B	34 B	140		47	13 B	77	25	
	carbon disulfide	75-15-0	ug/Kg	NC	7800000	0.851									1 J				
	chloromethane	74-87-3	ug/Kg						5 J				3 J				1 J	1 J	
	methyl ethyl ketone (2-butanone)	78-93-3	ug/Kg	NC	47000000		21 J		32 J				38				16 J		
	methyl isobutyl ketone (4-methyl-2-pentanone)	108-10-1	ug/Kg						4 J				3 J						
	methylene chloride	75-09-2	ug/Kg	CA	850000					3 B	10 B	12 B			5 B	7 B			
	tert-butyl methyl ether	1634-04-4	ug/Kg	CA	1600000		7 B						2 B						1 B
	toluene	108-88-3	ug/Kg	NC	6300000		1 B	18 J	1900				6100		4 B	1 B	420	120	

* USEPA Region 3 Risk-based Concentrations (RBCs) for residential soil (October 2007)

Note that all residential soil RBCs are multiplied by 10 to account for less exposure frequency for recreational contact with sediment (26 days per year) compared to residential soil contact (350 days per year).

For noncarcinogens, residential soil RBCs are also multiplied by 0.1 to create a safety factor for additivity of risk.

Residential soil RBCs for substances associated with cancer risk are based on a risk level of 1E-6.

** USEPA Region 3 BTAG Screening Benchmarks for freshwater sediment (08/2006)

CA = carcinogens; NC = noncarcinogens

Table 4-6b
 Substances Detected in Sediment Samples Collected in Darby Creek (adjacent to Clearview Landfill)
 Lower Darby Creek Area
 4 of 8

Analyte Sampling Date	cas rn	Units	Basis	RBC*	ESV**	SD27	SD26	SD25	SD25	SD24	SD23	SD22	SD22	LSD02	LSD01	LSD04	SD21	LSD05	LSD03	SEEP2	SEEP4	SEEP6	SEEP5			
						May-02	May-02	May-02	Oct-05	May-02	Oct-05	May-02	Oct-05	Jul-02	Jul-02	Jul-02	May-02	Jul-02	Jul-02	Mar-06	Mar-06	Mar-06	Mar-06			
METALS	aluminum	7429-90-5	mg/Kg	NC	78000	17800	15400	19100	10800	9910	17500	14600	4430	11900	15700	13600	17400	20700	23300	12000	11400 J	16300 J	7930 J	14500 J		
	antimony	7440-36-0	mg/Kg	NC	31	2	1.3	0.93	1.1	0.98 B	2.6	1.5 B	1.4	1.5 B	0.86 B	1.1 B	1.6 B		1.1 B	0.9 B	1.6 J	2.2 J	1.6 J	1.2 J		
	arsenic	7440-38-2	mg/Kg	CA	4.3	9.8	4.6	3.4	5.9	3.3	2.2	5.3	4.8	1.5	2.6	3.9 B	7.3 B	5.6	9.2	2.9 B	4.8	6.9	2.7	3.7		
	barium	7440-39-3	mg/Kg	NC	16000		211	179	217	114	128	192	162	37.8	128	183	280	299	217	233	152	152	186	97.3	195	
	beryllium	7440-41-7	mg/Kg	NC	160		2.4 B	2.5 B	3.2 B	0.68	1.8 B	1	2.4 B		0.72	0.86 B	0.82 B	1 B		1.2	0.8 B	0.36 J	0.83	0.33 J	0.5 J	
	cadmium	7440-43-9	mg/Kg	NC	39	0.99	0.85	0.9	1.2	0.67	0.4	1.1	1.2		0.51 J	0.49 B		1.2 B	0.97		0.26 B	0.88	0.56 J	0.44 J		
	calcium	7440-70-2	mg/Kg		0		10900	10500	11900	4170	4080	11100	6240	1970	4560	1960 B	8840 B	8350 B	11000	2050 B	6160 B	11600 J	2460 J	3740 J	3520 J	
	chromium, total	7440-47-3	mg/Kg	NC	230		52.7	44.4	54.5	30 J	115	48.7 J	49.4	11.9	34.6 J	37.8	44.6	51.7	52.2	65.4	35.6	38.6	48.8	27.9	43	
	cobalt	7440-48-4	mg/Kg		0		14.2	11.7	13.9	8.3	10.1	11.8	9.6	2.6	9	9.1	6.8	11	15.4	11.7	7.5	11.2	12.5	7.2	8.5 J	
	copper	7440-50-8	mg/Kg	NC	3100	31.6	84.3	71	85.6	43.1 L	83.9	79.3 L	86.6	11 J	51.8 L	62.3	47.9	153	67.2 J	59.8	37.7	58.1	58.1	43.3	26.4	
	cyanide	57-12-5	mg/Kg	NC	1600	0.1															1 J	0.067 B	0.41 B	0.22 B		
	iron	7439-89-6	mg/Kg	NC	55000	20000	31800	27700	31900	17700	19800	27200	25600	9310	19800	23200	25200	31800	33400	29700	18700	22100 J	22900 J	17100 J	18000 J	
	lead	7439-92-1	mg/Kg		0		137 K	127 K	162 K	94.8 J	411 K	158 J	220 K	21	134 J	180	101	335	117	109	87.3	175 J	125 J	95.3 J	63.7 J	
	magnesium	7439-95-4	mg/Kg		0		11400	10100	11000	4870	5630	9870	6960	2120	5900	5140	5120	8350	11000	4780	4610	7050 J	4060 J	3390 J	4140 J	
	manganese	7439-96-5	mg/Kg	NC	1600	460	581	522	745	317	212	660	319	109	273	308	278	446	854	558	259	339 J	350 J	365 J	134 J	
	mercury	7439-97-6	mg/Kg	NC	23	0.18	0.16	0.2	0.22	0.2	0.16	0.39	0.51		0.29	0.76	0.34	0.65	0.16	1.5	0.24	0.35 B	1.4	0.29	0.32 B	
	nickel	7440-02-0	mg/Kg	NC	1600	22.7	33.2	28	36.9	18.7	19.1	30.4	26.4		9	20.3	19.3 J	16.9 J	27.7 J	35	22.5 J	18.7 J	18.3 J	19 J	13.5 J	18.7 J
	potassium	7440-09-7	mg/Kg		0		4830	4180	3950	2410 J	3380	3520 J	3490	901	3170 J	3400 J	2400 J	3600 J	4270		3300 J	2500 J	1580 J	2060 J		
	selenium	7782-49-2	mg/Kg	NC	390	2	0.9 B	1.8 B	1 B								1.8 K	2.7			2.5 J	3.1 J	1.9 J	2.7 J		
	silver	7440-22-4	mg/Kg	NC	390	1	0.72	0.49	0.89						1.3		0.26	0.84	0.96							
	sodium	7440-23-5	mg/Kg		0		647 K	601 K	700 K	161 B	401 K	289 B	528 K	386 K	219 B	754 B	851 B	1040 B	880 K	1450 B	1110 B	1240	960	479 J	1110	
	thallium	7440-28-0	mg/Kg	NC	5.5		1.8 L				1.2 J	1.6 J		1.3 K												
	vanadium	7440-62-2	mg/Kg	NC	78		56.6	49	59.3	33.2	33.6	51.6	46.3	11	35.8	43.1	38.1	52.7	61.4	55.6	33.8	39.8	46.4	24.5	41.9	
	zinc	7440-66-6	mg/Kg	NC	23000	121	360 J	316 J	386 J	177 L	196 J	295 L	357 J	72.2	206 L	269	191	520	330	172	174 B	264 J	193 J	171 J	113 J	
TOC	acid volatile sulfide	AVS	umoles/g				1.92 J	4.5	1.75 J																	
	total organic carbon	TOC	mg/Kg				19400 J	22500 J	24600 J	40800	4200 J	44600	56400 J	2540	37700											
VOC	1,4-dichlorobenzene	106-46-7	ug/Kg	CA	270000	599	2 J	4 B	5 B		0.8 B						6 J	5 J		8 J	3 J					
	acetone	67-64-1	ug/Kg	NC	7000000		19 B	70	45							13 J	23	15 J	40 B	16 J	9 J	17 B	30 B		15 B	
	benzene	71-43-2	ug/Kg	CA	120000														5 J							
	carbon disulfide	75-15-0	ug/Kg	NC	7800000	0.851	0.9 J																			
	chlorobenzene	108-90-7	ug/Kg	NC	1600000	8.42											5 J	13 J		24		2 J				
	chloromethane	74-87-3	ug/Kg				1 J		1 J																	
	cyclohexane	110-82-7	ug/Kg																							
	ethylbenzene	100-41-4	ug/Kg	NC	7800000	1100												6 J								
	isopropylbenzene (cumene)	98-82-8	ug/Kg	NC	7800000	86											3 J	5 J		12 J						
	methyl ethyl ketone (2-butanone)	78-93-3	ug/Kg	NC	47000000			14 J										8 J								
	methyl isobutyl ketone (4-methyl-2-pentanone)	108-10-1	ug/Kg					1 J																		
	methylcyclohexane	108-87-2	ug/Kg																							
	methylene chloride	75-09-2	ug/Kg	CA	850000										4 B	6 B	7 B		9 B	5 B						
	tert-butyl methyl ether	1634-04-4	ug/Kg	CA	1600000		1 B	2 B			1 B		2 B													
	toluene	108-88-3	ug/Kg	NC	6300000		16 J	270	450		0.6 B		4 B					6 J	41							
	xylenes, total	XYLENES	ug/Kg	NC	16000000													20 J		2 J						

* USEPA Region 3 Risk-based Concentrations (RBCs) for residential soil (October 2007)
 Note that all residential soil RBCs are multiplied by 10 to account for less exposure frequency for recreational contact with sediment (26 days per year) compared to residential soil contact (350 days per year).
 For noncarcinogens, residential soil RBCs are also multiplied by 0.1 to create a safety factor for additivity of risk.
 Residential soil RBCs for substances associated with cancer risk are based on a risk level of 1E-6.
 ** USEPA Region 3 BTAG Screening Benchmarks for freshwater sediment (08/2006)
 CA = carcinogens; NC = noncarcinogens

Table 4-6c
Substances Detected in Sediment Samples in Darby Creek (North of Clearview Landfill)
Lower Darby Creek Area
5 of 8

	Analyte Sampling Date	cas n	Units	Basis	RBC*	ESV**	SD10	SD09	SD08	SD07	SD06	SD05	SD04	SD03	SD02	SD01	
							May-02	May-02	Jun-02	Jun-02	Jun-02	Jun-02	May-02	May-02	May-02	May-02	
SVOC	2-methylnaphthalene	91-57-6	ug/Kg	NC	310000	20.2	25 J		18 J	25 J		28 J					
	4-methylphenol (p-cresol)	106-44-5	ug/Kg	NC	390000	670		120 J		47 J		88 J	490 J	170 J		89 J	
	acenaphthene (PAH)	83-32-9	ug/Kg	NC	4700000	6.7	120 J	66 J	95 J	140 J	27 J	120 J	77 J	110 J	31 J	87 J	
	acenaphthylene (PAH)	208-96-8	ug/Kg				58 J	41 J	22 J	35 J	13 J	36 J	29 J	28 J	11 J	28 J	
	acetophenone	98-86-2	ug/Kg	NC	7800000		30 B	29 J	25 B	30 B	51 B	59 B			27 B	39 B	
	anthracene (PAH)	120-12-7	ug/Kg	NC	23000000	57.2	350 J	190 J	260 J	360 J	93 J	290 J	250 J	310 J	95 J	270 J	
	benzaldehyde	100-52-7	ug/Kg	NC	7800000			23 J	25 J	35 J	16 J	70 J	53 J	46 J	13 J	70 J	
	benzo(a)anthracene (PAH)	56-55-3	ug/Kg	CA	2200	108	1800	1100	1100	1800	490	1500	1400	1600	510	1500	
	benzo(a)pyrene (PAH)	50-32-8	ug/Kg	CA	220	150	2000	1300	1200	1900	550	1700	1600	1700	530	1700	
	benzo(b)fluoranthene (PAH)	205-99-2	ug/Kg	CA	2200	27.2	2300	1500	1200	2200	570	2100	1700	1800	520	1900	
	benzo(g,h,i)perylene (PAH)	191-24-2	ug/Kg				1400 J	820	680	1000	290 J	970	1000	990	280 J	1100	
	benzo(k)fluoranthene (PAH)	207-08-9	ug/Kg	CA	22000	240	2200	1400	1500	1900	550	1800	2100	2100	610	2200	
	benzyl butyl phthalate	85-68-7	ug/Kg	NC	16000000	10900	100 J	58 J	50 J	110 J	14 J	76 J	68 J	51 J		94 J	
	bis(2-ethylhexyl) phthalate	117-81-7	ug/Kg	CA	460000	180	870	1200 B	730 B	1400	310 B	2000	1500	1400 B	370 B	1500	
	carbazole	86-74-8	ug/Kg	CA	320000		240 J	200 J	200 J	320 J	71 J	260 J	230 J	290 J	75 J	290 J	
	chrysene (PAH)	218-01-9	ug/Kg	CA	220000	166	2500	1600	1500	2400	690	2200	2100	2300	700	2300	
	dibenz(a,h)anthracene (PAH)	53-70-3	ug/Kg	CA	220	33	420 J	320 J	270 J	400 J	140 J	370 J	380 J	410 J	130 J	470 J	
	dibenzofuran	132-64-9	ug/Kg	NC	78000	415	59 J	34 J	56 J	78 J	15 J	72 J	48 J	64 J	17 J	55 J	
	di-n-butyl phthalate	84-74-2	ug/Kg	NC	7800000	6470	45 J		23 J	23 J		36 J				48 J	
	di-n-octylphthalate	117-84-0	ug/Kg			390 J	110 J	44 J	110 J	19 J	120 J	120 J	89 J	36 J	150 J		
	fluoranthene (PAH)	206-44-0	ug/Kg	NC	310000	423	3800	2900	2600	3900	1200	3500	3400	4000	1200	3800	
	fluorene (PAH)	86-73-7	ug/Kg	NC	3100000	77.4	110 J	72 J	110 J	160 J	34 J	140 J	99 J	130 J	38 J	110 J	
	indeno(1,2,3-C,D)pyrene (PAH)	193-39-5	ug/Kg	CA	2200	17	1400 J	970	680	1000	300 J	960	980	1000	290 J	1100	
	naphthalene (PAH)	91-20-3	ug/Kg	NC	1600000	176	36 J		26 J	35 J		44 J	20 J	27 J		19 J	
	phenanthrene (PAH)	85-01-8	ug/Kg				1800	1300	1500	2300	570	1900	1700	2100	630	1900	
	pyrene (PAH)	129-00-0	ug/Kg	NC	2300000	195	3500	2300	2400	3700	1000	3400	3200	3500	1100	3400	
	PESTICIDES/PCBS	alpha-chlordane	5103-71-9	ug/Kg	CA	1800		36 J	26	20	18	9.5	30	29	22	7.9	31
		beta BHC (beta hexachlorocyclohexane)	319-85-7	ug/Kg	CA	3500	5			3.3 J	3.5 J				6.7 J		
		dieldrin	60-57-1	ug/Kg	CA	400	1.9	35 J	23 J	17	18 J	7.4 J	29 J	25 J	24 J	5.2 J	32 J
		endosulfan sulfate	1031-07-8	ug/Kg				6.5 J									
		endrin	72-20-8	ug/Kg	NC	23000	2.22				5.4 J						
		endrin ketone	53494-70-5	ug/Kg						12 J				8 J			
gamma-chlordane		12789-03-6	ug/Kg	CA	1800		22	12	15	8.7 J	4.9	14	13	12 J	3.4 J	17	
heptachlor epoxide		1024-57-3	ug/Kg	CA	700	2.47	8.9 J		2.1 J	2.7		3.4 J	2.2 J	2.3 J	5.6 J		
p,p-DDD		72-54-8	ug/Kg	CA	27000	4.88						5.2 J					
p,p-DDE		72-55-9	ug/Kg	CA	19000	3.16		4.9 J	3 J	3.1 J		4.5 J	4.5 J	4.6 J	5.3 J		
p,p-DDT		50-29-3	ug/Kg	CA	19000	4.16				4 J							
PCB-1260 (Arochlor 1260)		11096-82-5	ug/Kg	CA	3200				150								
toxaphene		8001-35-2	ug/Kg	CA	5800	0.1											
METALS		aluminum	7429-90-5	mg/Kg	NC	78000		17000	20400	10100	13100	15600	15400	12400	11400	5880	15100
		antimony	7440-36-0	mg/Kg	NC	31	2		1.4 L		1.5 L	1.4 L					
	arsenic	7440-38-2	mg/Kg	CA	4.3	9.8	4.5	6.4	2.9	3.9	4.9	5.9	6	4.4	1.2	5.8	
	barium	7440-39-3	mg/Kg	NC	16000		163	210	110	142	169	173	168	142	67.1	216	
	beryllium	7440-41-7	mg/Kg	NC	160		0.63 L						0.8 K	0.73 K	0.77 B	1 B	
	cadmium	7440-43-9	mg/Kg	NC	39	0.99	0.54	0.91	0.49	0.58	0.66	0.78	0.86	0.53	0.34	1.3	
	calcium	7440-70-2	mg/Kg		0		7390	9710	5420	5980	4550	10000	9250	11300	3040	11500	
	chromium, total	7440-47-3	mg/Kg	NC	230		44.3	49.1	28.9	37.7	40.5	41.5	36.5	34	19.6	46.4	
	cobalt	7440-48-4	mg/Kg		0		13	14.6	8.1	10.2	12.1	11.4	10.8	10	5.7	13.7	
	copper	7440-50-8	mg/Kg	NC	3100	31.6	52.3	60.3 J	30.7 J	43.9 J	42 J	55.4 J	78.8 J	75.8 J	44.7 J	133 J	
	iron	7439-89-6	mg/Kg	NC	55000	20000	26100	32300	19700	24900	26900	28800	24300	23100	13000	29300	
	lead	7439-92-1	mg/Kg		0		94.9	101	53.5	134	66.1	106	96.9	67.6	45.7	87.7	
	magnesium	7439-95-4	mg/Kg		0		8050	10300	6230	7530	6970	9830	7980	8980	3790	11500	
	manganese	7439-96-5	mg/Kg	NC	1600	460	668	842	331	341	578	452	835 K	323 K	173 K	489 K	
	mercury	7439-97-6	mg/Kg	NC	23	0.18	0.13	0.19			0.18	0.12	0.14			0.12	
	nickel	7440-02-0	mg/Kg	NC	1600	22.7	28.3	32.6	17.9	23.3	23.1	27.5	25	21.6	15.8	29.8	
	potassium	7440-09-7	mg/Kg		0		3270	3690	2660	3380	3040	3390	2520	3060	1680	3570	
	selenium	7782-49-2	mg/Kg	NC	390	2	1.2 L	1.7		1.3 L	1.3 L	1.3 L	2.5 J			4.2 J	
	silver	7440-22-4	mg/Kg	NC	390	1								0.4			
	sodium	7440-23-5	mg/Kg		0		539 K	783 K	437 K	496 K	501 K	711 K	645 K	562 K	374 K	655 K	
	thallium	7440-28-0	mg/Kg	NC	5.5		1.1 B	2.6 K	1.9 B	1.9 B	2 B	3.6 B					
	vanadium	7440-62-2	mg/Kg	NC	78		49.5	59.4	33.1	42	47.7	50.5	43.3	40.9	21.2	53.9	
	zinc	7440-66-6	mg/Kg	NC	23000	121	229	287	165	217	172	270	240 J	181 J	119 J	270 J	

Table 4-6c
 Substances Detected in Sediment Samples Collected in Darby Creek (North of Clearview Landfill)
 Lower Darby Creek Area
 6 of 8

	Analyte	cas n	Units	Basis	RBC*	ESV**	SD10	SD09	SD08	SD07	SD06	SD05	SD04	SD03	SD02	SD01
	Sampling Date						May-02	May-02	Jun-02	Jun-02	Jun-02	Jun-02	May-02	May-02	May-02	May-02
TOC	acid volatile sulfide	AVS	umoles/g					2.1	2.3	3.4	0.65 J	2.5	1.16 J	3.8	3.2	8.6
	total organic carbon	TOC	mg/Kg				15300 J	14700	11600	11400	9300	14800	16100	14000	22400	16300
VOC	acetone	67-64-1	ug/Kg	NC	70000000			32				45 L	150 J			
	chloromethane	74-87-3	ug/Kg					0.9 J								
	methylene chloride	75-09-2	ug/Kg	CA	850000				4 B	4 B	4 B	3 B	4 B		3 B	4 B
	toluene	108-88-3	ug/Kg	NC	6300000				1700		82 L		9 J	690	3 J	

* USEPA Region 3 Risk-based Concentrations (RBCs) for residential soil (October 2007)

Note that all residential soil RBCs are multiplied by 10 to account for less exposure frequency for recreational contact with sediment (26 days per year) compared to residential soil contact (350 days per year).

For noncarcinogens, residential soil RBCs are also multiplied by 0.1 to create a safety factor for additivity of risk.

Residential soil RBCs for substances associated with cancer risk are based on a risk level of 1E-6.

** USEPA Region 3 BTAG Screening Benchmarks for freshwater sediment (08/2006)

CA = carcinogens; NC = noncarcinogens

Table 4-6d
 Substances Detected in Sediment Samples Collected in Cobbs Creek (North of Clearview Landfill)
 8 of 8

	Analyte Sampling Date	cas n	Units	Basis	RBC*	ESV**	BKG_SD	SD20	SEEP3	SD19	SD19	SD18	SD17	SD16	SD15	SD14	SD13	SD12	SD11		
							Oct-05	May-02	Mar-06	May-02	Oct-05	May-02									
TOC	acid volatile sulfide	AVS	umoles/g							3.5		1.68 J	4.6	10.5	2.5	2.5	9.4	9	13.6		
	total organic carbon	TOC	mg/Kg				52500	22300 J		20800	40600	19100	16600	23000	7400	37600	37800	35100	32100		
VOC	1,2,4-trichlorobenzene	120-82-1	ug/Kg	NC	780000	2100														8 B	
	1,2-dichlorobenzene	95-50-1	ug/Kg	NC	7000000	16.5										0.7 B				2 B	
	1,3-dichlorobenzene	541-73-1	ug/Kg	NC	230000	4430										0.6 B				2 B	
	1,4-dichlorobenzene	106-46-7	ug/Kg	CA	270000	599				2 B			3 B	4 B		2 B	21 B	18 B		6 B	
	acetone	67-64-1	ug/Kg	NC	70000000			9 B	23 B				35	90							83 J
	methylene chloride	75-09-2	ug/Kg	CA	850000					2 B			9 B	4 B	1 B	3 B					4 B
	toluene	108-88-3	ug/Kg	NC	6300000			5 B		18 J			92	630		17	5600	3200		230 J	
	xylenes, total	XYLENES	ug/Kg	NC	16000000																2 J

* USEPA Region 3 Risk-based Concentrations (RBCs) for residential soil (October 2007)

Note that all residential soil RBCs are multiplied by 10 to account for less exposure frequency for recreational contact with sediment (26 days per year) compared to residential soil contact (350 days per year).

For noncarcinogens, residential soil RBCs are also multiplied by 0.1 to create a safety factor for additivity of risk.

Residential soil RBCs for substances associated with cancer risk are based on a risk level of 1E-6.

** USEPA Region 3 BTAG Screening Benchmarks for freshwater sediment (08/2006)

CA = carcinogens; NC = noncarcinogens

Table 4-7a
Substances Detected in Surface Water Samples
Collected in Tinicum Marsh
Lower Darby Creek Area
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	Analyte	CAS	Units	Basis	RBC*	ESV**	SW35	SW34	SW31	SW37	SW38	SW33	SW30	SW32	SW36	SW29	SW28	
SVOC	atrazine	1912-24-9	ug/L	C	3	1.8	0.3 J	0	0	0	0	0	0	0	0	0	0	
	benzyl butyl phthalate	85-68-7	ug/L	N	73000	19	0	0	0	0	0	0	0	0	0	0	0.2 J	
	bis(2-ethylhexyl) phthalate	117-81-7	ug/L	C	48	16	1 J	0	0.6 J	3 B	0	0	0.8 J	0	0	0	0.7 J	0.6 J
	di-n-butyl phthalate	84-74-2	ug/L	N	36500	19	0	0	0	0.4 J	0	0	0	0	0	0	0	0
	fluoranthene (PAH)	206-44-0	ug/L	N	14600	0.04	0	0	0	0	0	0	0	0	0	0	0	0.2 J
	pentachlorophenol	87-86-5	ug/L	C	5.581	0.5	0	0	0	0	0	0	0	0	0	0	0	10 J
	pyrene (PAH)	129-00-0	ug/L	N	1825	0.025	0	0	0	0	0	0	0	0	0	0	0	0.2 J
TOTAL METALS	aluminum	7429-90-5	ug/L	N	365000	87	81.6 J	638 J	1340 J	206	1250 J	797 J	406 B	1110 J	1820 J	207	140 B	
	antimony	7440-36-0	ug/L	N	146	30	0	2.2	0	0	0	0	0	0	0	0	0	
	arsenic	7440-38-2	ug/L	C	0.446	5	2.4	2.9	2.1	UL	9.4	9	2.2	6.9	7.7	UL	UL	
	barium	7440-39-3	ug/L	N	73000	4	34.9	39.1	51	36.1	70.5	68.4	38.7	65	70.4	41.8	62.3	
	beryllium	7440-41-7	ug/L	N	730	0.66	1.4 B	0	1.6 B	UL	0	0	2.8 B	3.2 B	0	1.2 B	UL	
	cadmium	7440-43-9	ug/L	N	182.5	0.25	0	0	0	0	0	0	0	0	0	1.9	0	
	calcium	7440-70-2	ug/L				16900	16900	18400	16300	27700	29200	18100	28400	27500	18100	26500	
	chromium, total	7440-47-3	ug/L				3 K	2.7 K	3.7 K	1.1	3.1 K	2.5 K	1.4 K	2.9 K	4.3 K	1.1	0	
	cobalt	7440-48-4	ug/L				0	0	0	0	0	0	0	0	2.7 K	0	0	
	copper	7440-50-8	ug/L	N	14600	9	3.6 B	3.8 B	5.2 B	0	3.8 B	3.4 B	UL	UL	4.5 B	0	1.7 B	
	iron	7439-89-6	ug/L	N	255500	300	1330	1400	2290	639	3730	3230	912	3420	4220	777	500	
	lead	7439-92-1	ug/L				1 K	2.3 L	6.6	UL	15.1	11.7	0	12.7	14.6	UL	UL	
	magnesium	7439-95-4	ug/L				5990	6240	7150	6250	11800	12300	6710	11700	11800	7480	11700	
	manganese	7439-96-5	ug/L	N	7300	120	105	169	197	137	596	585	144	503	544	129	84.3	
	mercury	7439-97-6	ug/L			0.026	UL	UL	UL	0	UL	UL	UL	UL	UL	UL	0	
	nickel	7440-02-0	ug/L	N	7300	52	3.2	2.9 K	3.6	2.2 B	4.8 K	4.4 K	2.3	4.3	5.5 K	1.9	1.7	
	potassium	7440-09-7	ug/L				2200	2720	3290	2130	3300	3590	2730	3600	3460	2800	3920	
	selenium	7782-49-2	ug/L	N	1825	1	0	UL	0	UL	UL	UL	0	0	UL	UL	UL	
	silver	7440-22-4	ug/L	N	1825	3.2	0	0	0	0	0	0	0	0	0	0	0	
	sodium	7440-23-5	ug/L				14400	12800	12800	14200 J	48900	48400	13100	45200	45300	14400 J	19800 J	
thallium	7440-28-0	ug/L	N	25.55	0.8	UL	UL	UL	2.2 K	UL	UL	UL	UL	UL	0	0		
vanadium	7440-62-2	ug/L	N	365	20	3.2	3.5	5.3	1.8	10.4	9.9	2.6	10.1	12.5	1.8	1.5		
zinc	7440-66-6	ug/L	N	109500	120	21.2 B	21.1 B	27.7 B	5.6	15.6 B	18.6 B	11.1 B	12.2 B	48.5	UL	UL		
DISSOLVED METALS	aluminum	7429-90-5	ug/L	N	365000	87	58.5 B	125 B	60.6 B	UL	0	0	101 B	0	0	UL	UL	
	antimony	7440-36-0	ug/L	N	146	30	0	2.2	0	0	2.1	0	0	0	0	0	0	
	arsenic	7440-38-2	ug/L	C	0.446	5	0	3.3 B	3.4 B	0	3.9 B	3.5 B	0	4.4 B	3.5 B	2.3 B	2.5 B	
	barium	7440-39-3	ug/L	N	73000	4	26.2	29.9	41.3	32.2	39.4	37.6	34.3	36.6	34.5	38.9	60.2	
	beryllium	7440-41-7	ug/L	N	730	0.66	1.9 B	1.8 B	1.9 B	UL	0	0	3.5 B	0	0	UL	UL	
	calcium	7440-70-2	ug/L				15500	15800	18700	16400	24400	25000	18000	25500	25100	18100	26900	
	chromium, total	7440-47-3	ug/L				0	0	0	0	1 K	0	0	2.1 K	0	0	0	
	copper	7440-50-8	ug/L	N	14600	9	UL	UL	UL	UL	1.2 B	1.6 B	UL	0	1.6 B	1.2 B	0	
	iron	7439-89-6	ug/L	N	255500	300	63.5	250	160	68.1	217	201	157	195	172	105	73.5	
	magnesium	7439-95-4	ug/L				5410	5560	7220	6110	10300	10600	6600	10600	10500	7360	11700	
	manganese	7439-96-5	ug/L	N	7300	120	62.9	112	151	129	150	78.4	133	69.7	36.7	123	78.6	
	nickel	7440-02-0	ug/L	N	7300	52	1.5	1.7	2.2	0	1.2 K	1.4 K	2	2 K	1.3 K	2.4	1.3	
	potassium	7440-09-7	ug/L				1970	2390	3220	1830	2450	2500	2720	2340	2540	3000	3910	
	silver	7440-22-4	ug/L	N	1825	3.2	0	1.3	0	1.4	0	0	0	0	0	0	0	
	sodium	7440-23-5	ug/L				12600	12000	13200	13100 J	44400	46700	13100	43200	45700	14300 J	19800 J	
	thallium	7440-28-0	ug/L	N	25.55	0.8	UL	UL	UL	0	UL	UL	UL	UL	UL	2.5 B	0	
	vanadium	7440-62-2	ug/L	N	365	20	1.3	2.7	1.6	1.1	2.8	3	1.3	3.2	5	1.2	0	
zinc	7440-66-6	ug/L	N	109500	120	7.9 B	8.5 B	6.8 B	UL	3.6 B	4 B	6.5 B	4 B	22.7 B	UL	71.6		
PESTICIDES	beta BHC (beta hexachlorocyclohexane)	319-85-7	ug/L	C	0.372	0	0	0	0	0	0	0	0.046 B	0	0	0.06 B	0.11 B	
VOC	1,1-dichloroethene	75-35-4	ug/L	N	3532	25	0	0.7 J	0	0	0	0	0	0	0	0	0	
	acetone	67-64-1	ug/L	N	54750	1500	0	6 B	7 B	0	15 B	12	0	13	14	6 B	0	
	benzene	71-43-2	ug/L	C	3.358	370	0	0.5 J	0	0	0	0	0	0	0	0	0	
	methylene chloride	75-09-2	ug/L	C	41	98.1	0	0	0	0	0	0	1 J	0	1 J	0	0	
	tert-butyl methyl ether	1634-04-4	ug/L	C	26	11070	0.7 B	0.6 B	0.7 B	1 J	0	0	2 B	0	0	0.6 B	0.8 B	
	tetrachloroethylene(PCE)	127-18-4	ug/L	C	1.035	111	0.5 J	0	0	0	1 J	0	0	0	0	0	0	
	toluene	108-88-3	ug/L	N	22711	2	0	0.5 J	0	0	0	0	0	0	0	0	0	
OTHER	trichloroethylene (TCE)	79-01-6	ug/L	C	0.264	21	0	0.6 J	0	0	0	0	0	0	0	0.3 J	0	
	cyanide	57-12-5	ug/L	N	7300	5	0	0	0	2.1	0	0	0	0	0	UL	UL	
	fecal coliform	FECCOLIFORM	count/100							1100			380			380	350	
	chromium, hexavalent	18540-29-9	ug/L	N	1.095	0.011	0	0	0	0	10 <	10 <	0	10	10 <C	0	0	
	hardness (as cac03)	HARD	mg/L				61	62	71	66	111	112	67	110	113	78	116	
	total dissolved solids (residue, filterable)	STORET 005	mg/L				221	239	286	140	489	420	228	362 <C	315	359	471	
total suspended solids	TSS	mg/L				6	17	17	8	77	108	35	162	142	35	13		
phosphorus, total orthophosphate (as po4)	PO4	mg/L											250 <					

* USEPA Region III RBCs (October 2007) for tap water multiplied by a factor of 10 to account for a different medium.

** USEPA Region III BTAG Screening Benchmarks for surface water.

Bold values are over the lower of the RBCs and ESVs.

C = carcinogen; N = non-carcinogen

Table 4-7b
 Substances Detected in Surface Water and Leachate Samples
 Collected in Darby Creek (Adjacent to Landfill)
 Lower Darby Creek Area
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	Analyte	CAS	Units	Basis	RBC*	ESV**	SW27	SW26	SW25	SW24	SW23	SW22	LS02	LS01	LS04	SW21	LS05	LS03	SEEP2	SEEP4	SEEP5	SEEP6	
VOC	1,1,1-trichloroethane	71-55-6	ug/L	N	91330	11	0	0	0	0	0	0	0	0	0	0	0	0	0	UJ	UJ	0	0
	1,1,2,2-tetrachloroethane	79-34-5	ug/L	C	0.527	610	0	3 J	0	1 J	0	5 J	0	0	0	0	0	0	0	UJ	UJ	0	0
	1,1,2-trichloro-1,2,2-trifluoroethane	76-13-1	ug/L	N	593758		0	0	0	0.5 J	0	0	0	0	0	0	0	0	0	UJ	UJ	0	0
	1,1,2-trichloroethane	79-00-5	ug/L	C	1.878	1200	0	0	0	0	0	0.4 J	0	0	0	0	0	0	0	UJ	UJ	0	0
	1,4-dichlorobenzene	106-46-7	ug/L	C	2.815	26	0	0	0	0	0	0	0	0	0	0	0	0	0	UJ	UJ	0	2 J
	2-hexanone	591-78-6	ug/L				0	0	0	0	0	0	0	0	0	0	0	0	0	UJ	UJ	0	0
	acetone	67-64-1	ug/L	N	54750	1500	0	6 J	0	0	0	0	140 J	67 J	40 J	0	0	19 J	10 J	44 B	47 B	25 B	0
	benzene	71-43-2	ug/L	C	3.358	370	0	0	0	0	0	0	0	0	0	0	0	7 J	0	UJ	UJ	0	0
	carbon disulfide	75-15-0	ug/L	N	10429	0.92	0	0	0	0	0	0	0	0	0	0	0	0	0	5 J	UJ	0	0
	carbon tetrachloride	56-23-5	ug/L	C	1.620	13.3	0	0	0	0	0	0	0	0	0	0	0	0	0	UJ	UJ	0	0
	chlorobenzene	108-90-7	ug/L	N	896	1.3	0	0	0	0	0	0	0	0	4 J	2 J	0	13	2 J	11 J	5 J	6 J	15
	cyclohexane	110-82-7	ug/L	N	124100		0	0	0	0	0	0	0	0	0	0	0	0	0	UJ	UJ	0	1 J
	styrene	100-42-5	ug/L	N	16235	72	0	0	0	0	0	0	0.5 J	0	0	0	0	0	0	UJ	UJ	0	0
	tert-butyl methyl ether	1634-04-4	ug/L	C	26	11070	0.7 B	0	0	0	4 B	0	1 J	UJ	UJ	0	0	UJ	0	UJ	UJ	0	0
toluene	108-88-3	ug/L	N	22711	2	0	0.4 J	0.4 J	1 J	0	0.3 J	0	0	0	0	0	0	0	UJ	UJ	0	0	
OTHER	cyanide	57-12-5	ug/L	N	7300	5	UL	UL	UL	UL	UL	UL	299	4.8 B	13.9	2.8 L	22.3	60.7					
	fecal coliform	FECCOLIFORM	count/100				220	120	70	280	200	160											
	hardness (as cac03)	HARD	mg/L				117	126	125	130	133	139					136						
	total dissolved solids (residue, filterable)	STORET 005	mg/L				374	248	247	266	275	289					299						
	total suspended solids	TSS	mg/L				22	8	20	12	7	4 <					4						
	nitrogen, nitrate (as n)	14797-55-8	mg/L	N	584									0.15 <									
	nitrogen, nitrite	14797-65-0	mg/L	N	36.5									0.5 <									
	total organic carbon	TOC	mg/L										2.76										

* USEPA Region III RBCs (October 2007) for tap water multiplied by a factor of 10 to account for a different medium.

** USEPA Region III BTAG Screening Benchmarks for surface water.

Bold values are over the lower of the RBCs and ESVs.

C = carcinogen; N = non-carcinogen

Table 4-7c
 Substances Detected in Surface Water Samples
 Collected in Darby Creek (North of Landfill)
 Lower Darby Creek Area
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	Analyte	CAS	Units	Basis	RBC*	ESV**	SW10	SW09	SW08	SW07	SW06	SW05	SW04	SW03	SW02	SW01
SVOC	benzyl butyl phthalate	85-68-7	ug/L	N	73000	19	0	0	0	0	0.2 J	0.3 J	0	0	0	0
	bis(2-ethylhexyl) phthalate	117-81-7	ug/L	C	48	16	1 B	2 B	7 B	1 B	0.7 B	2 B	0.7 B	0	0	1 B
	di-n-butyl phthalate	84-74-2	ug/L	N	36500	19	0	0	0	0	0	0.3 J	0	0	0	0
	pyrene (PAH)	129-00-0	ug/L	N	1825	0.025	0	0	0	0.4 J	0	0	0	0	0	0
TOTAL METALS	aluminum	7429-90-5	ug/L	N	365000	87	162 B	95.8	93.8 B		UL	UL	284 B	141 B	417 B	285 B
	antimony	7440-36-0	ug/L	N	146	30	0	0	0	0	0	0	0	3.4 B	0	0
	barium	7440-39-3	ug/L	N	73000	4	71.8	72.8	83.2	87.5	81.7	84.4	87.3	85.6	89.3	78.2
	beryllium	7440-41-7	ug/L	N	730	0.66	1.2 B	0	0		UL	UL	UL	0	0	0
	cadmium	7440-43-9	ug/L	N	182.5	0.25	1.5	0	0	0	0	0	0	0	0	0
	calcium	7440-70-2	ug/L				29800	31300	34300	35700	33500	35400	32700	34900	34600	31400
	chromium, total	7440-47-3	ug/L				0	0	0	0	0	0	0	0	1.5	0
	cobalt	7440-48-4	ug/L				2.1	0	0	0	0	2.4	0	0	0	0
	copper	7440-50-8	ug/L	N	14600	9	0	UL	UL	UL	UL	UL	1.1 B	UL	1.9 B	UL
	iron	7439-89-6	ug/L	N	255500	300	373	287	63.5 J	161	137	152	512 J	119 J	646 J	354 J
	lead	7439-92-1	ug/L				7.4	0	0	UL	UL	UL	0	0	1.7	UL
	magnesium	7439-95-4	ug/L				13500	13700	14900	15500	14600	15300	14500	15300	15300	13900
	manganese	7439-96-5	ug/L	N	7300	120	40	29.2	28.2	32.4	21	24.1	58.4	20.1	54.2	42.7
	nickel	7440-02-0	ug/L	N	7300	52	1.6	0	0		UL	UL	UL	1.6	0	2.2
	potassium	7440-09-7	ug/L				2910	3310	3670	3310	3210	3300	3510	3440	3690	3140
	silver	7440-22-4	ug/L	N	1825	3.2	0	0	0	0	0	0	1.1	0	0	0
	sodium	7440-23-5	ug/L				21300 J	20600 J	22700	21500 J	21000 J	21900 J	22000	22700	22300	21000
	thallium	7440-28-0	ug/L	N	25.55	0.8	0	0	0	0	0	0	0	0	0	3.8
	vanadium	7440-62-2	ug/L	N	365	20	1.2	1.5	0	0	0	1	1.4	0	1.7	1.4
	zinc	7440-66-6	ug/L	N	109500	120	6.9	UL	6 B	UL	UL	UL	11.3 B	0	10.5 B	3.4 B
DISSOLVED METALS	aluminum	7429-90-5	ug/L	N	365000	87	23 B	UL	209 B	UL	27.4 L	UL	128 B	135 B	133 B	110 B
	antimony	7440-36-0	ug/L	N	146	30	0	0	0	0	0	0	0	0	3.5 B	3.5 B
	barium	7440-39-3	ug/L	N	73000	4	70.8	70.3	95	80	80.2	79.5	82	80.1	80.7	79.5
	beryllium	7440-41-7	ug/L	N	730	0.66	1 B	0	0	0	UL	UL	UL	0	0	0
	calcium	7440-70-2	ug/L				31300	31400	36300	32800	33500	33300	34000	33300	33900	33800
	copper	7440-50-8	ug/L	N	14600	9	0	0	2.9 B	UL	UL	UL	UL	UL	UL	UL
	iron	7439-89-6	ug/L	N	255500	300	123	90	415 J	71.4	124	55.5	58 J	48.6 J	65.7 J	52 J
	lead	7439-92-1	ug/L				UL	UL	3.3	UL	UL	UL	0	0	0	0
	magnesium	7439-95-4	ug/L				14200	13700	15800	14300	14700	14500	14800	14600	14800	14900
	manganese	7439-96-5	ug/L	N	7300	120	37	20.9	75.7	29.5	19.4	16.9	23.2	20.1	19.9	12.7
	nickel	7440-02-0	ug/L	N	7300	52	1.5	1.1 B	2.1		UL	UL	UL	1.1	0	0
	potassium	7440-09-7	ug/L				3300	3380	3840	3360	3380	3450	3580	3270	3520	3630
	selenium	7782-49-2	ug/L	N	1825	1	UL	UL	UL	3.2 K	0	0	UL	UL	UL	UL
	sodium	7440-23-5	ug/L				24300 J	20500 J	23200	22300 J	21600 J	22200 J	22500	21600	22200	22500
	thallium	7440-28-0	ug/L	N	25.55	0.8	0	2.4 B	0	3.5 B	0	0	0	0	3 B	0
	vanadium	7440-62-2	ug/L	N	365	20	0	1	1.4	0	0	0	0	0	0	0
	zinc	7440-66-6	ug/L	N	109500	120	UL	0	16.6 B	UL	UL	UL	5.4 B	3.2 B	0	0
PESTICIDES	dieldrin	60-57-1	ug/L	C	0.042	0.056	0	0	0	0	0	0	0.026 J	0	0	0
VOC	acetone	67-64-1	ug/L	N	54750	1500	0	0	UL	UL	UL	UL	0	0	0	10
	toluene	108-88-3	ug/L	N	22711	2	0	0	UL	UL	UL	0.5 B	0	0	0	0
	trichloroethylene (TCE)	79-01-6	ug/L	C	0.264	21	0	0.5 B	UL	UL	UL	UL	0	0	0	0
OTHER	fecal coliform	FECCOLIFORM	count/100					190				240				350
	chromium, hexavalent	18540-29-9	ug/L	N	1.095	0.011	6	0	0	0	0	0	0	0	0	0
	hardness (as cacO3)	HARD	mg/L				286	131	139	144	142	139	141	144	144	145
	total dissolved solids (residue, filterable)	STORET 005	mg/L				139	351	302	290	305	318	296	295	303	310
	total suspended solids	TSS	mg/L				0	10	18	4	4 <	4 <	20	4 <	29	10

* USEPA Region III RBCs (October 2007) for tap water multiplied by a factor of 10 to account for a different medium.

** USEPA Region III BTAG Screening Benchmarks for surface water.

Bold values are over the lower of the RBCs and ESVs.

C = carcinogen; N = non-carcinogen

Table 4-7d
 Substances Detected in Surface Water and Leachate Samples
 Collected in Cobbs Creek (North fo Landfill)
 Lower Darby Creek Area
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	Analyte	CAS	Units	Basis	RBC*	ESV**	SW20	SEEP3	SW19	SW18	SW17	SW16	SW15	SW14	SW13	SW12	SW11
SVOC	2-methylnaphthalene	91-57-6	ug/L	N	243	4.7	0	2 J	0	0	0	0	0	0	0	0	0
	4-nitrophenol	100-02-7	ug/L				0	0	0	0	1 J	0	2 J	0	0	0	0
	acenaphthene (PAH)	83-32-9	ug/L	N	3650	5.8	0	2 J	0	0	0	0	0	0	0	0	0
	acetophenone	98-86-2	ug/L	N	6083		0	0	0.4 J	0.8 J	0.5 J	0	0.7 J	0	0	0	0
	anthracene (PAH)	120-12-7	ug/L	N	18250	0.012	0	2 J	0	0	0	0	0	0	0	0	0.3 J
	benzo(a)anthracene (PAH)	56-55-3	ug/L	C	0.3	0.018	0	0	0	0	0	0	0	0	0.3 J	0	1 J
	benzo(a)pyrene (PAH)	50-32-8	ug/L	C	0.03	0.015	0	0	0	0	0	0	0	0	0.3 J	0	1 J
	benzo(b)fluoranthene (PAH)	205-99-2	ug/L	C	0.3		0	0	0	0	0	0	0	0	0.3 J	0	1 J
	benzo(g,h,i)perylene (PAH)	191-24-2	ug/L				0	0	0	0	0	0	0	0	0.2 J	0	0.8 J
	benzo(k)fluoranthene (PAH)	207-08-9	ug/L	C	3		0	0	0	0	0	0	0	0	0	0	1 J
	benzyl butyl phthalate	85-68-7	ug/L	N	73000	19	0	0	0.2 J	0.6 J	0.4 J	0.2 J	0.7 J	0.2 J	0.3 J	0	0.3 J
	bis(2-ethylhexyl) phthalate	117-81-7	ug/L	C	48	16	0.7 B	0	1 B	4 B	2 B	1 B	8 B	1 B	2 B	0.7 B	5 B
	carbazole	86-74-8	ug/L	C	33		0		UJ	0	0	0	0	0	0	0	0.3 J
	chrysene (PAH)	218-01-9	ug/L	C	30		0	0	0	0	0	0	0	0	0.4 J	0	1 J
	diethyl phthalate	84-66-2	ug/L	N	292000	210	0	0	0.5 J	1 J	0.8 J	0	1 J	0	0	0	0
	di-n-butyl phthalate	84-74-2	ug/L	N	36500	19	0		UJ	0.3 J	0.5 J	0.4 J	0.3 J	0.6 J	0	0	0.3 J
	fluoranthene (PAH)	206-44-0	ug/L	N	14600	0.04	0		UJ	0.2 J	0	0	0.2 J	0	0	0.7 J	3 J
	fluorene (PAH)	86-73-7	ug/L	N	2433	3	0	0	2 J	0	0	0	0	0	0	0	0
	indeno(1,2,3-C,D)pyrene (PAH)	193-39-5	ug/L	C	0.3		0	0	0	0	0	0	0	0	0.2 J	0	0.9 J
	phenanthrene (PAH)	85-01-8	ug/L				0	0	2 J	0	0	0	0	0	0.4 J	0	1 J
pyrene (PAH)	129-00-0	ug/L	N	1825	0.025	0	0	0	0.2 J	0	0	0	0	0.6 J	0	2 J	
TOTAL METALS	aluminum	7429-90-5	ug/L	N	365000	87	86.2	126 B	79.6	296	UL	359	166	23.3 B	103	7350	7450
	antimony	7440-36-0	ug/L	N	146	30	0		UL	0	0	4.9	0	2.3	0	0	3.8
	arsenic	7440-38-2	ug/L	C	0.446	5		UL	4.5 J	UL	UL	0	0	UL	0	4	7.2
	barium	7440-39-3	ug/L	N	73000	4	75.9	130 J	67.3	59.1	63.2	83.1	47.2	82.5	78.9	332	182
	beryllium	7440-41-7	ug/L	N	730	0.66	0		UL	UL	0	UL	UL	0	0	0	0
	cadmium	7440-43-9	ug/L	N	182.5	0.25	0		UL	0	0	0	0	0	0	2.3	0
	calcium	7440-70-2	ug/L				33100	91500 L	37600	27000	33700	43900	23100	43600	43200	73500	48200
	chromium, total	7440-47-3	ug/L				0	56.4 L	0	1.9	0	1.4	1.6	0	0	22	20.6
	cobalt	7440-48-4	ug/L				0	20.3 J	0	0	0	0	0	0	0	9.9	4.9
	copper	7440-50-8	ug/L	N	14600	9	1.3	6.4 J	3	17.3	UL	1.8 B	15	2.4 L	UL	40.1 L	66.6
	cyanide	57-12-5	ug/L	N	7300	5		17.8 L									
	iron	7439-89-6	ug/L	N	255500	300	387	2050 L	723	1020	778	1540	762	1340	1220	20200	14500
	lead	7439-92-1	ug/L				UL	UL	1.1 L	10.8	3.7 B	9.1	8.6	0	3.7 B	287	168
	magnesium	7439-95-4	ug/L				14600	101000 L	12800	8200	11200	15600	6490	16400	15500	29700	17900
	manganese	7439-96-5	ug/L	N	7300	120	53.9	251 L	147	304	319	142	313	231	177	766	537
	mercury	7439-97-6	ug/L			0.026	0	0.14 B	0	0.14	UL	UL	0	UL	UL	0.29 L	0.15 L
	nickel	7440-02-0	ug/L	N	7300	52	1.4 B	25.1 J	2.8 B	5 B	0	1.8	4.7 B	1.4	1.4	25.4	12.6
	potassium	7440-09-7	ug/L				3550	183000 L	5780	4270	4320	4600	3890	5610	4700	6000	6030
	selenium	7782-49-2	ug/L	N	1825	1		UL	UL	UL	UL	0	0	UL	0	3.2 K	0
	silver	7440-22-4	ug/L	N	1825	3.2	0	UL	0	0	0	0	0	0	0	0	1.3
	sodium	7440-23-5	ug/L				22800 J	1110000 L	24900 J	16900 J	22000 J	26400 J	14400 J	47100 J+	28000 J	28200 J	27000 J
	thallium	7440-28-0	ug/L	N	25.55	0.8	4.5 J	UL	3.8 K	UL	5.2	0	UL	0	0	0	0
	vanadium	7440-62-2	ug/L	N	365	20	1.2	35.1 J	1.4	3.4	1.7	2.3	3.1	0	1.3	40.6	22.8
zinc	7440-66-6	ug/L	N	109500	120	6.6	UL	13	73.5	UL	7.7 L	74.3	UL	5.5 L	1040	263	

Table 4-7d
 Substances Detected in Surface Water and Leachate Samples
 Collected in Cobbs Creek (North fo Landfill)
 Lower Darby Creek Area
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	Analyte	CAS	Units	Basis	RBC*	ESV**	SW20	SEEP3	SW19	SW18	SW17	SW16	SW15	SW14	SW13	SW12	SW11			
DISSOLVED METALS	aluminum	7429-90-5	ug/L	N	365000	87	UL	6980	UL	22.1	B	UL	UL	UL	UL	UL	UL			
	antimony	7440-36-0	ug/L	N	146	30	0	2.9	J	2.2	2.8	0	0	0	0	0	0			
	arsenic	7440-38-2	ug/L	C	0.446	5	UL	7	J	UL	UL	2.3	B	4.4	L	0	0	3.2		
	barium	7440-39-3	ug/L	N	73000	4	67.2	704	L	60.9	45.7	59.9	71.3	39.2	73.4	73.7	73.5	63.3		
	calcium	7440-70-2	ug/L				30500	98500	L	34300	24900	33500	42400	21000	43400	41900	43100	43600		
	chromium, total	7440-47-3	ug/L				0	80.6	L	0	1.2	0	0	1.1	0	0	0	0		
	cobalt	7440-48-4	ug/L				0	25.4	J	0	0	0	2.4	0	0	0	0	0		
	copper	7440-50-8	ug/L	N	14600	9	0	37.2	L	1.3	5.6	UL	UL	6.6	UL	UL	UL	UL		
	iron	7439-89-6	ug/L	N	255500	300	102	20100	L	322	266	338	298	321	381	581	303	382		
	lead	7439-92-1	ug/L				UL	54.2	L	UL	UL	0	UL	UL	UL	UL	UL	0		
	magnesium	7439-95-4	ug/L				13400	103000	L	11800	7500	11100	15000	5970	15300	15000	15300	14600		
	manganese	7439-96-5	ug/L	N	7300	120	38	470	L	80.5	245	314	106	275	163	201	106	388		
	mercury	7439-97-6	ug/L			0.026	0	0.48	B	0	0	UL	UL	0	UL	UL	UL	UL		
	nickel	7440-02-0	ug/L	N	7300	52	1.9	32.7	J	3.2	3.9	B	1.4	1.2	L	3.5	B	1.6	L	
	potassium	7440-09-7	ug/L				3360	180000	L	4880	4010	4120	4720	3810	4900	4890	4620	4840		
	selenium	7782-49-2	ug/L	N	1825	1	UL	UL	UL	2.2	L	0	0	UL	0	0	0	0		
	sodium	7440-23-5	ug/L				21400	1070000	L	23700	16500	J	21500	J	27300	J	14100	J	28500	J
	thallium	7440-28-0	ug/L	N	25.55	0.8	0	UL	4.1	B	UL	6.1	B	3.5	B	3	B	3.6	B	
	vanadium	7440-62-2	ug/L	N	365	20	0	54.9	L	0	2.6	0	0	2.6	0	0	0	1.6		
zinc	7440-66-6	ug/L	N	109500	120	8.6	73.4	L	10	42.2	UL	UL	47.8	UL	UL	UL	UL			
PESTICIDES	alpha-chlordane	5103-71-9	ug/L			0	0	0	0	0	0	0	0	0	0	0	0.037	J		
	beta BHC (beta hexachlorocyclohexane)	319-85-7	ug/L	C	0.372		0	0.15	J	0	0	0	0.078	J	0	0	0	0		
	dieldrin	60-57-1	ug/L	C	0.042	0.056	0	0	0	0.036	J	0	0	0	0	0.033	J	0.051	J	
	gamma-chlordane	12789-03-6	ug/L			0	0.018	J	0	0	0	0	0	0	0	0	0	0.021	J	
	heptachlor	76-44-8	ug/L	C	0.149	0.0019	0	0.052	J	0	0.032	J	0	0.02	J	0	0	0	0	
VOC	acetone	67-64-1	ug/L	N	54750	1500	0	43	B	17	0	27	9	J	0	23	15	56	20	
	benzene	71-43-2	ug/L	C	3.358	370	0	12	J	0	0	0	0	0	0	0	0	0	0	
	carbon disulfide	75-15-0	ug/L	N	10429	0.92	0	0	0	0	0	2	J	0	0	0	0	0	0	
	chlorobenzene	108-90-7	ug/L	N	896	1.3	0	20	J	0	0	0	0	0	0	0	0	0	0	
	chloroform	67-66-3	ug/L	C	1.546	1.8	0	0	0	0	0	0	0	0	0	0	0	0.6	B	
	cyclohexane	110-82-7	ug/L	N	124100		0	6	J	0	0	0	0	0	0	0	0	0	0	
	tert-butyl methyl ether	1634-04-4	ug/L	C	26	11070	0	0	0.4	J	0	0	0	0	0	0	0	0.5	J	
	tetrachloroethylene(PCE)	127-18-4	ug/L	C	1.035	111	0	0	0.8	J	0	2	J	0	0	0	0	0	0	
	toluene	108-88-3	ug/L	N	22711	2	0	0	0	0	0	0	0	5	J	9	J	1	B	
trichloroethylene (TCE)	79-01-6	ug/L	C	0.264	21	0	0	0.7	B	0	2	B	0	0	0	0	0	0		
OTHER	cyanide	57-12-5	ug/L	N	7300	5	UL	UL	0	3.2	3	L	UL	0	UL	UL	UL	UL		
	fecal coliform	FECCOLIFORM	count/100															6400	J	
	hardness (as cac03)	HARD	mg/L				141			138	90	130	163	79	169	168	165	188		
	total dissolved solids (residue, filterable)	STORET 005	mg/L				290			328	223	308	356	197	423	394	409	373		
	total suspended solids	TSS	mg/L				17			4	<	13	5	12	12	13	30	20	505	

* USEPA Region III RBCs (October 2007) for tap water multiplied by a factor of 10 to account for a different medium.

** USEPA Region III BTAG Screening Benchmarks for surface water.

Bold values are over the lower of the RBCs and ESVs.

C = carcinogen; N = non-carcinogen

Table 4-8
 General Surface Water Quality
 Lower Darby Creek Area
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Location	Sampling Date	Alkalinity (end point pH = 4.5)	Alkalinity (end point pH = 8.3)	Alkalinity total (as CaCO ₃)	BOD ₅	Bromide	Calcium	Chloride (as Cl ⁻)	COD	Fecal coliform	Fluoride	Hardness (as CaCO ₃)	Magnesium	Nitrogen	Nitrogen ammonia (as N)	Total Kjeldahl Nitrogen	Nitrogen nitrate (as N)	Nitrogen nitrate-nitrite	Nitrogen nitrite	Phosphorus dissolved (as P)	Phosphorus total (as P)	Phosphorus total orthophosphate (as PO ₄ ³⁻)	Sulfate (as SO ₄ ²⁻)	Total dissolved solids	Total organic carbon	Total suspended solids	
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	count/100 mL	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
LS01	10-Jul-02	2890			42.9		55.4		75	6000		270	32.1		5.6	4.2	1.24		0.075	4.66				3100	166	193	
LS02	11-Jul-02	2830			34.4		67.1		1800	200		392	54.4	76.9	201	278	0.15		0.5					2690	120	3090	
LS03	09-Jul-02	1720			204		151		729	1900		851	115		297	290	0.15		0.5					2320	166	18800	
LS04	09-Jul-02	246			32.1		205		295	2600		1080	139	1.6	23.7	25.3	0.786		0.05					430	16.3	5680	
LS05	10-Jul-02	4220			378		129		1560	6000		916	144	238	240	480	1.83		0.5					4920	271	80600	
SW01	04-Jun-02			73.4	4	0.5		71	14.5	350	0.121						1.28	1.3	0.05		0.05	0.25	27.2		1.9		
SW02	04-Jun-02			77.2	4	0.5		70.6	11.8		0.115						1.37	1.4	0.05		0.05	0.25	26.9		1.8		
SW03	04-Jun-02			78.4	4	0.5		70.8	10		0.108						1.4	1.4	0.05		0.05	0.25	27		1.9		
SW04	04-Jun-02			78.4	4	0.5		70.5	11.4		0.117						1.35	1.4	0.05		0.05	0.25	27		1.8		
SW05	03-Jun-02			63.5	4	0.5		69	10	240	0.121						1.29	1.4	0.05		0.08	0.25	27.5		3.3		
SW06	03-Jun-02			75.9	4	0.5		69	11.8		0.1						1.35	1.4	0.05		0.065	0.25	27		2.8		
SW07	03-Jun-02			77.2	4	0.5		71.3	10		0.148						1.29	1.3	0.05		0.263	0.25	27.1		2.3		
SW08	03-Jun-02			77.2	4	0.5		70.6	10		0.11						1.28	1.3	0.05		0.106	0.25	28.2		2.3		
SW09	29-May-02			72.5	4	0.5		63.2	10	190	0.11						1.39	1.2	0.05		0.081	0.25	26.3		1		
SW10	23-May-02			76.2	4	0.5		64	18.1		0.133						1.86	1.8	0.05		0.631	0.25	27.1		1		
SW11	30-May-02			110	8.8	0.5		82.8	81.6	6400	0.235			4	0.24	4	0.15		0.05		0.156	0.25	34.8		4.9		
SW12	30-May-02			87.5	4	0.5		87.3	12.2		0.157						0.681	0.7	0.05		0.162	0.25	40.7		1		
SW13	30-May-02			88.8	6.2	0.5		85.4	21.8		0.186					1.5	0.562	0.6	0.05		0.162	0.25	39.6		1		
SW14	30-May-02			93.8	24	0.5		85	38.8		0.15			4.4	0.4	3.5	0.588	0.9	0.05		0.156	0.25	38.5		2.8		
SW15	28-May-02			53.8	24.2	0.5		27.5	86.4		0.15						0.15		0.05		0.17	0.25	22.3		21.4		
SW16	28-May-02			89.4	4	0.5		87.8	14.8		0.15			1.7		1.1	0.6	0.63	0.05		0.135	0.25	40.6		1.9		
SW17	29-May-02			75	6.2	0.5		61.8	39.1		0.158			1.8		1.8	0.27		0.05		0.164	0.25	33.6		6.8		
SW18	28-May-02			63.8	19.2	0.5		38.2	72.9		0.17						0.15		0.132		0.116	0.25	26		18.9		
SW19	29-May-02			80	6	0.5		64.2	35		0.158			2.4		2.4	0.397		0.05		0.152	0.25	33.7		6.3		
SW20	23-May-02			72.5	4	0.5		64.4	17.4		0.115			1.7			1.76	1.7	0.05		0.102	0.25	27.9		1		
SW21	23-May-02			76.2	4	0.5		66.3	10		0.117			1.7			1.73	1.7	0.05		0.274	0.25	28.1		1		
SW22	23-May-02			76.2	4	0.5		65.4	10	160	0.124			1.7			1.71	1.7	0.05		0.111	0.25	29.2		1		
SW23	22-May-02			76.8	4	0.5		60.2	13.3	200	0.11			1.7			1.72	1.7	0.05		0.05	0.25	26.6		3.4		
SW24	22-May-02			78.1	4	0.5		58.7	10.3	280	0.1			1.6			1.56	1.6	0.05		0.05	0.25	27.6		13.5		
SW25	22-May-02			73.1	4	0.5		55.2	10.3	70	0.173			1.5			1.48	1.5	0.05		0.05	0.25	26.2		3.9		
SW26	22-May-02			74.4	4	0.5		55.5	10	120	0.146			1.5			1.5	1.5	0.05		0.05	0.25	26.5		3.8		
SW27	21-May-02			71.9	4	0.5		49.8	11.6	220	0.122			1.3			1.4	1.3	0.05		0.111	0.25	24.8		5		
SW28	21-May-02			69.4	4	0.5		47.1	14	350	0.142			1.3			1.33	1.3	0.05		0.05	0.25	23.9		2		
SW29	21-May-02			52.1	4	0.5		29.3	14.4	380	0.17			2		1.1	0.943	0.9	0.05		0.05	0.25	19.6		3.8		
SW30	21-May-02			47.1	4	0.5		25.5	21.8	380	0.139			0.9			0.918	0.9	0.05		0.05	0.25	18.6		1.9		
SW31	20-May-02			50.8	4	0.5		23.3	48.1		0.132			0.8			0.787	0.8	0.05		0.05	0.25	16.2		5		
SW32	16-May-02			78.1	37.2	0.5		85.4	165		0.402						0.15		1.25		0.097	0.25	12.6		28.4		
SW33	16-May-02			74.4	35.4	0.5		88.6	179		0.467						0.15		1.25		0.079	0.25	12.6		29.8		
SW34	20-May-02			44.6	4	0.5		20.8	14.7		0.1			2.1		1.2	0.869	0.9	0.05		0.103	0.25	16.5		4		
SW35	20-May-02			37.2	4	0.5		19.8	14		0.12			2.1		1	1.1	1.1	0.05		0.356	0.25	20.6		3.6		
SW36	16-May-02			74.4	40.2	0.5		84.1	184		0.422						0.15		1.25		0.05	0.25	12.5		25		
SW37	29-May-02			41.9	4	0.5		28.2	10.1	1100	0.115			1			0.976	1	0.05		0.086	0.25	20.8		1.8		
SW38	16-May-02			74.4	35.4	0.5		91.7	177		0.446						0.15		1.25		0.079	0.25	12.8		26.8		

Table 4-9
Sediment Grain Size versus PAH Concentration
Lower Darby Creek Area

SUBSTANCE	PAH Concentration in Various Grain Sizes (ug/Kg)					AVERAGE
	Silt	Very Fine Sand	Fine Sand	Medium Sand	Coarse Sand	
ACENAPHTHENE	211	274	430	503	22	288
ACENAPHTHYLENE	98	110	60	128	34	86
ANTHRACENE	559	848	1,339	1,100	110	791
BENZO(A)ANTHRACENE	2,512	3,183	3,378	4,025	280	2,676
BENZO(A)PYRENE	2,633	3,200	2,533	3,675	260	2,460
BENZO(B)FLUORANTHENE	3,208	3,717	2,980	4,575	270	2,950
BENZO(G,H,I)PERYLENE	1,378	1,887	1,268	1,415	130	1,216
CHRYSENE	3,517	4,050	4,025	5,225	320	3,427
DIBENZ(A,H)ANTHRACENE	680	732	655	970	71	622
FLUORANTHENE	5,967	6,733	8,400	9,275	540	6,183
FLUORENE	247	274	517	495	40	315
INDENO(1,2,3-C,D)PYRENE	2,048	2,228	1,618	2,725	150	1,754
NAPHTHALENE	125	169	382	280	12	194
PHENANTHRENE	3,140	3,867	6,858	6,150	380	4,079
PYRENE	5,158	6,050	6,700	8,100	460	5,294
AVERAGE	2,099	2,488	2,743	3,243	205	2,156

	Silt	Very Fine Sand	Fine Sand	Medium Sand	Coarse Sand
D ₅₀	0.028	0.090	0.180	0.374	0.800

Table 4-10
Semivolatile Organic Compounds Detected in Soil
Lower Darby Creek Area
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Location	Sample Type	Sample Date	Start Depth	End Depth	Units	1,2,4,5-tetrachlorobenzene	2,4-dimethylphenol	2,4-dinitrophenol	4-nitrophenol	acenaphthylene	benzo(e)anthracene	benzo(a)pyrene	benzo(b)fluoranthene	benzo(g,h,i)perylene	benzo(k)fluoranthene	bis(2-chloroethyl) ether	bis(2-ethylhexyl) phthalate	dibenz(a,h)anthracene	indeno(1,2,3-c,d)pyrene	phenanthrene	4-methylphenol(p-cresol)	acenaphthene	anthracene	chrysene	fluoranthene	fluorene	naphthalene	phenol	pyrene				
						RBC*	1600000	160000	100	100	220	22	220	100	2200	580	46000	22	220	100	390000	4700000	23000000	220000	3100000	3100000	1600000	23000000	2300000				
						ESV**	100	100	100	100	100																						
GP247	DEEP	1/9/2006			ug/Kg	UL			UL	UL	130 J	140 J	190 J	54 J	83 J		29 J		56 J	94 J			28 J	160 J	230 L	UL	24 J		160 J				
GP248	SHALLOW	1/25/2006			ug/Kg	UL					650 L	470 L	680 L	210 J	280 L		540 L	UL	220 L	990 L		54 J	220 L	700 L	1300 L	89 J	36 J		1200 L				
GP249	SHALLOW	1/25/2006			ug/Kg					360 J	1500 J	2300 J	3100 J	1500 J	1000 J				1400 J	340 J				1600 J	1600 J				2400 J				
GP250	SHALLOW	1/25/2006			ug/Kg						550 J	640 J	790 J	370 J	260 J				340 J	1000 J			290 J	530 J	900 J	240 J			1300 J				
GP251	SHALLOW	1/25/2006			ug/Kg						950 J	830 J	1300 J	550 J	510 J		2800		540 J	700 J				980 J	1600 J				1900 J				
GP253	SHALLOW	1/26/2006	0	6	ug/Kg						680	660	920	400 J	350 J		770		390 J	630	100 J	50 J	160 J	780	1300	52 J			1200				

* USEPA Region III RBCs for residential soil (October 2007)

** USEPA Region III BTAG Screening Benchmarks for soil (1995).

Bold concentrations are over the lower of the RBC and the ESV.

Table 4-11
Pesticides and Polychlorinated Biphenyls (PCBs) Detected in Soil
Lower Darby Creek Area
6 of 12

Location	Sample Type	Sample Date	Start Depth	End Depth	Units	aldrin	alpha-chlordane	beta-BHC	dieldrin	endrin	gamma-chlordane	heptachlor epoxide	methoxychlor	p,p-DDD	p,p-DDE	p,p-DDT	PCB-1242	PCB-1254	PCB-1260	PCB-1268
					RBC*	38	180	350	40	23000	180	70	390000	2700	1900	1900	320	320	320	320
					ESV**	100	100		100	100		100	100		100	100	100	100	100	100
GP001	SHALLOW	2/10/2003	0	6	ug/Kg									3.6 J	3.2 J				35 J	
GP001	MEDIUM	2/10/2003	11	11	ug/Kg									2.6 J						
GP001	DEEP	2/10/2003	17	17	ug/Kg									3.3 J	4.4 J					
GP002	SHALLOW	2/10/2003	0	6	ug/Kg									3.7 J	6.7 J					
GP002	MEDIUM	2/10/2003			ug/Kg									3.9 J						
GP002	DEEP	2/10/2003			ug/Kg				60 J				5600	75						
GP003	SHALLOW	2/11/2003	0	6	ug/Kg															
GP003	MEDIUM	2/11/2003	5	5	ug/Kg															
GP003	DEEP	2/11/2003	12	12	ug/Kg									3.8 J	4.9					
GP004	SHALLOW	2/11/2003	0	6	ug/Kg															
GP004	DEEP	2/11/2003	12	12	ug/Kg															
GP005	SHALLOW	2/12/2003	0	6	ug/Kg															
GP005	MEDIUM	2/12/2003	9	9	ug/Kg															
GP005	DEEP	2/12/2003	18	18	ug/Kg															
GP006	SHALLOW	2/12/2003	0	6	ug/Kg															
GP006	MEDIUM	2/12/2003	7	7	ug/Kg															
GP007	SHALLOW	3/31/2003	0	6	ug/Kg									5.7		11 J				
GP007	MEDIUM	3/31/2003	8	10	ug/Kg															
GP007	DEEP	3/31/2003	17	19	ug/Kg															
GP008	SHALLOW	3/31/2003	0	6	ug/Kg									3.9	4.4					42 J
GP008	MEDIUM	3/31/2003	10	12	ug/Kg															
GP008	DEEP	3/31/2003	18	20	ug/Kg															
GP009	SHALLOW	3/31/2003	0	6	ug/Kg						3.9 J			6.9	5.9					210 J
GP009	MEDIUM	3/31/2003	12	16	ug/Kg															37
GP009	DEEP	3/31/2003	16	20	ug/Kg															
GP010	SHALLOW	4/1/2003	0	6	ug/Kg															
GP010	MEDIUM	4/1/2003	15	16	ug/Kg								20 J			23 J				3700
GP010	DEEP	4/1/2003	22	23	ug/Kg															
GP011	SHALLOW	4/1/2003	0	6	ug/Kg															
GP011	MEDIUM	4/1/2003	15	16	ug/Kg															
GP011	DEEP	4/1/2003	20	20	ug/Kg															
GP012	SHALLOW	4/1/2003	0	6	ug/Kg									9	4.3					
GP012	MEDIUM	4/1/2003	12	14	ug/Kg															
GP012	DEEP	4/1/2003	19	20	ug/Kg															
GP013	SHALLOW	4/1/2003	0	6	ug/Kg															
GP013	MEDIUM	4/1/2003	11	12	ug/Kg															
GP013	DEEP	4/1/2003	17	18	ug/Kg															
GP014	SHALLOW	4/2/2003	0	6	ug/Kg															
GP014	MEDIUM	4/2/2003	8	10	ug/Kg															
GP014	DEEP	4/2/2003	17	20	ug/Kg															
GP015	SHALLOW	4/2/2003	0	6	ug/Kg															
GP015	MEDIUM	4/2/2003	14	16	ug/Kg															
GP015	DEEP	4/2/2003	18	20	ug/Kg															
GP016	SHALLOW	4/2/2003	0	6	ug/Kg															
GP016	MEDIUM	4/2/2003	9	11	ug/Kg															
GP016	DEEP	4/2/2003	18	20	ug/Kg															
GP017	SHALLOW	4/2/2003	0	6	ug/Kg									6.8						35 J
GP017	MEDIUM	4/2/2003	16	18	ug/Kg									11 J	5.2	9.8 J				
GP017	DEEP	4/2/2003	20	22	ug/Kg															
GP018	SHALLOW	4/3/2003	0	6	ug/Kg		18 J		19		19 J			16	10 J					
GP018	MEDIUM	4/3/2003	8	10	ug/Kg	6.2 J		6.3 J			35 J			190	290		270 J		120	
GP018	DEEP	4/3/2003	10	12	ug/Kg	30 J					29 J			930	670	40 J	730 J		400 J	
GP019	SHALLOW	4/3/2003	0	6	ug/Kg		3.3				2.4 J									
GP020	SHALLOW	4/3/2003	0	6	ug/Kg															26 J
GP021	SHALLOW	4/3/2003	0	6	ug/Kg	33	23 J	16 J			37 J	19 J		35	16 J	20 J	1700		390 J	
GP022	SHALLOW	4/4/2003	0	6	ug/Kg	7.2	2.4				6.2			5.9			79 J	72 J		
GP022	MEDIUM	4/4/2003	5	6	ug/Kg									7.7						
GP023	SHALLOW	4/4/2003	0	6	ug/Kg						5.6 J			13 J	4.1 J				140 J	
GP024	SHALLOW	4/4/2003	0	6	ug/Kg		2.5 J				0.52 J				6 J	12 J				
GP024	MEDIUM	4/4/2003	4	5	ug/Kg									4.9						
GP025	SHALLOW	4/4/2003	0	6	ug/Kg		3.3 J				3.2 J				5.1 J	12				
GP025	MEDIUM	4/4/2003	5	6	ug/Kg									4.6						
GP025	DEEP	4/4/2003	11	12	ug/Kg															
GP026	SHALLOW	4/7/2003	0	6	ug/Kg						2.8 J									
GP026	MEDIUM	4/7/2003	8	10	ug/Kg															
GP026	DEEP	4/7/2003	14	16	ug/Kg									31	15	11				

Table 4-11
Pesticides and Polychlorinated Biphenyls (PCBs) Detected in Soil
Lower Darby Creek Area
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Location	Sample Type	Sample Date	Start Depth	End Depth	Units	aldrin	alpha-chlordane	beta-BHC	dieldrin	endrin	gamma-chlordane	heptachlor epoxide	methoxychlor	p,p-DDD	p,p-DDE	p,p-DDT	PCB-1242	PCB-1254	PCB-1260	PCB-1268					
						RBC*	38	180	350	40	23000	180	70	390000	2700	1900	1900	320	320	320	320	320	320	320	320
ESV**	100	100		100	100		100																		
GP086	SHALLOW	7/15/2004	0	6	ug/Kg																				
GP086	MEDIUM	7/15/2004			ug/Kg																				
GP086	DEEP	7/15/2004			ug/Kg											18									
GP087	SHALLOW	7/15/2004	0	6	ug/Kg									5.8 J											
GP087	MEDIUM	7/15/2004			ug/Kg																				
GP087	DEEP	7/15/2004			ug/Kg																				
GP088	SHALLOW	7/16/2004	0	6	ug/Kg																				
GP088	MEDIUM	7/16/2004	14	14	ug/Kg																				
GP088	DEEP	7/16/2004	22	22	ug/Kg																				
GP089	SHALLOW	7/21/2004	0	6	ug/Kg																				
GP089	MEDIUM	7/21/2004	10	10	ug/Kg																				
GP089	DEEP	7/21/2004	23	24	ug/Kg																				
GP090	SHALLOW	7/16/2004	0	6	ug/Kg				93						64	140									
GP090	MEDIUM	7/16/2004	6	6	ug/Kg																				
GP090	DEEP	7/16/2004	11	11	ug/Kg																				
GP091	SHALLOW	7/16/2004	0	6	ug/Kg			2.5 J			4.2 J				8.6 J	15 J			630						
GP091	MEDIUM	7/16/2004	10	11	ug/Kg																				
GP091	DEEP	7/16/2004	16	16	ug/Kg						2.4 J			12	5.2										
GP092	SHALLOW	7/19/2004	0	6	ug/Kg															83					
GP092	MEDIUM	7/19/2004			ug/Kg															26 J					
GP092	DEEP	7/19/2004			ug/Kg									6.2						45 J					
GP093	SHALLOW	7/23/2004	0	6	ug/Kg																				
GP093	MEDIUM	7/23/2004	12	12	ug/Kg									120	48	21 J									
GP093	DEEP	7/23/2004	16	16	ug/Kg									300	120 J+	220									
GP094	SHALLOW	7/23/2004	0	6	ug/Kg															150 J					
GP094	DEEP	7/23/2004			ug/Kg									13 J	15 J										
GP095	SHALLOW	7/23/2004	0	6	ug/Kg																				
GP095	MEDIUM	7/23/2004	6	6	ug/Kg									9.2											
GP095	DEEP	7/23/2004	12	12	ug/Kg																				
GP096	SHALLOW	7/26/2004	0	6	ug/Kg																				
GP096	MEDIUM	7/26/2004	12	12	ug/Kg																				
GP096	DEEP	7/26/2004	20	20	ug/Kg																				
GP098	SHALLOW	7/26/2004	0	6	ug/Kg																				
GP098	MEDIUM	7/26/2004	8	12	ug/Kg																				
GP098	DEEP	7/26/2004	12	16	ug/Kg																				
GP101	SHALLOW	7/20/2004	0	6	ug/Kg																				
GP101	MEDIUM	7/20/2004	6	6	ug/Kg																				
GP101	DEEP	7/20/2004	12	12	ug/Kg																				
GP102	SHALLOW	7/20/2004	0	6	ug/Kg																				
GP102	MEDIUM	7/20/2004	10	10	ug/Kg																				
GP102	DEEP	7/20/2004	18	18	ug/Kg																				
GP103	SHALLOW	7/20/2004	0	6	ug/Kg																				
GP103	MEDIUM	7/20/2004	15	15	ug/Kg																				
GP103	DEEP	7/20/2004	20	20	ug/Kg																				
GP104	SHALLOW	7/14/2004	0	6	ug/Kg																				
GP104	MEDIUM	7/14/2004	13	13	ug/Kg																				
GP104	DEEP	7/14/2004	22	22	ug/Kg																				
GP105	SHALLOW	7/14/2004	0	6	ug/Kg																50 J				
GP105	MEDIUM	7/14/2004	10	10	ug/Kg																				
GP105	DEEP	7/14/2004	32	32	ug/Kg																				
GP106	SHALLOW	7/19/2004	0	6	ug/Kg																				
GP106	MEDIUM	7/19/2004	10	10	ug/Kg																				
GP106	DEEP	7/19/2004	20	20	ug/Kg																				
GP107	SHALLOW	7/19/2004	0	6	ug/Kg						3.1 J														
GP107	MEDIUM	7/19/2004	10	10	ug/Kg																				
GP107	DEEP	7/19/2004	20	20	ug/Kg																				
GP108	SHALLOW	7/20/2004	0	6	ug/Kg		7.1				5.1 J				3.9	4.1 J									
GP108	MEDIUM	7/20/2004	10	10	ug/Kg																				
GP108	DEEP	7/20/2004			ug/Kg																				
GP109	SHALLOW	7/21/2004	0	6	ug/Kg						7.3 J					4.7 J				370					
GP109	MEDIUM	7/21/2004	16	16	ug/Kg																				
GP109	DEEP	7/21/2004	20	20	ug/Kg																				
GP110	SHALLOW	7/23/2004	0	6	ug/Kg																				
GP110	MEDIUM	7/23/2004	11	11	ug/Kg																				
GP110	DEEP	7/23/2004	20	20	ug/Kg																				
GP120	SHALLOW	1/6/2006	0	6	ug/Kg		4.9 J		4.2 J	3.2 B	5.3 B	5.6 B	18 J	30	14 J	130 J				1100					

Table 4-11
Pesticides and Polychlorinated Biphenyls (PCBs) Detected in Soil
Lower Darby Creek Area
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Location	Sample Type	Sample Date	Start Depth	End Depth	Units	aldrin	alpha-chlordane	beta-BHC	dieldrin	endrin	gamma-chlordane	heptachlor epoxide	methoxychlor	p,p-DDD	p,p-DDE	p,p-DDT	PCB-1242	PCB-1254	PCB-1260	PCB-1268	
					RBC*	38	180	350	40	23000	180	70	390000	2700	1900	1900	320	320	320	320	
					ESV**	100	100		100	100	100	100	100	100	100	100	100	100	100	100	100
GP236	SHALLOW	1/11/2006			ug/Kg		2.8 J		2.5 J	6.4 J	2.9 J		3.7 J	9.6 J		21 J			670 L		
GP236	MEDIUM	1/11/2006			ug/Kg														7800 L		
GP236	DEEP	1/11/2006			ug/Kg																
GP237	MEDIUM	1/11/2006	5	5	ug/Kg													UL	UL	2400 L	UL
GP238	SHALLOW	1/10/2006	0	6	ug/Kg	UJ	2.7 J	UJ	42 J	2.1 B	11 B	UJ	13 J	3.9 J	14 J	130 J	UL	UL	2400 L	UL	
GP238	MEDIUM	1/10/2006	5	5	ug/Kg												UL	UL	4700 L	UL	
GP238	DEEP	1/10/2006	10	10	ug/Kg																
GP239	SHALLOW	2/2/2006	0	6	ug/Kg	2.3 J	570 J+	1300 J+	3600 J+	13000	6500 J+	2000	290 J	1200 J	2600	14000	UJ	UJ	280000 J	UJ	
GP239	MEDIUM	2/2/2006			ug/Kg												UJ	UJ	98 J	UJ	
GP240	SHALLOW	1/9/2006	0	6	ug/Kg		4.1 J		7.4 J	2.7 B	4 B	2.8 B	15 J	8.2 J		68 J			2000		
GP240	MEDIUM	1/9/2006	5	5	ug/Kg														700		
GP240	DEEP	1/9/2006	10	10	ug/Kg																
GP241	SHALLOW	1/5/2006			ug/Kg		1.8 J		2.9 J		3.3 B		13 J	8.7 J	6.3 J	21 B			190		
GP241	MEDIUM	1/5/2006			ug/Kg														170		
GP241	DEEP	1/5/2006			ug/Kg																
GP242	SHALLOW	1/10/2006	0	6	ug/Kg	UJ	4.9 J	UJ	1.9 J	4.2 B	6.5 B	UJ	5.5 J	20 J	13 J	53 J			860		
GP242	MEDIUM	1/10/2006			ug/Kg														1600		
GP242	DEEP	1/10/2006			ug/Kg																
GP243	SHALLOW	1/5/2006			ug/Kg				3.3 J	2.4 B	1.2 B	1 B	14 J	2.4 J		8.3 B			520		
GP243	MEDIUM	1/5/2006			ug/Kg														19000		
GP243	DEEP	1/5/2006			ug/Kg																
GP244	SHALLOW	1/9/2006	0	6	ug/Kg		11 J		6.9 J	2.2 B	13 B	5.5 B	19 J	15 J	8.7 J	130 J			270		
GP244	MEDIUM	1/9/2006	5	5	ug/Kg														32000		
GP244	DEEP	1/9/2006	9	9	ug/Kg																
GP245	SHALLOW	1/6/2006			ug/Kg				4.5 J	2.4 B			14 J	7.3 J	4.5 J	33 J			680		
GP245	MEDIUM	1/6/2006			ug/Kg														2100000		
GP245	DEEP	1/6/2006	10	10	ug/Kg																
GP246	SHALLOW	1/6/2006	0	6	ug/Kg		6 J		6.6 J	2.2 B	11 B	2 B	13 J	8.1 J	11 J	9.5 B			58		
GP246	MEDIUM	1/6/2006	5	5	ug/Kg														210		
GP246	DEEP	1/6/2006	10	10	ug/Kg																
GP247	SHALLOW	1/9/2006	0	6	ug/Kg		1.9 J		5.2 J	2.5 B			15 J	3.4 J		16 B			36 J		
GP247	MEDIUM	1/9/2006			ug/Kg														210		
GP247	DEEP	1/9/2006			ug/Kg																
GP248	SHALLOW	1/25/2006			ug/Kg		4.6 J	2.9 J	7.9 J		16 J	5.9 J		12 J	16 J	92			1700 J		
GP249	SHALLOW	1/25/2006			ug/Kg					2.9 J			9.1 J	12 J	6.5 J	79			1400		
GP250	SHALLOW	1/25/2006			ug/Kg						3.4 J		10 J	7.8 J	4.8 J	3.7 J			77		
GP251	SHALLOW	1/25/2006			ug/Kg	15 J	81	4.7 J	190	32 J	92 J	2.1 J	30 J	25 J	210 J	450			5200		
GP253	SHALLOW	1/26/2006	0	6	ug/Kg									9.5 J	3.7 J	23 J					

* USEPA Region III RBCs for residential soil (October 2007)
 ** USEPA Region III BTAG Screening Benchmarks for soil (1995).
 Bold concentrations are over the lower of the RBC and the ESV.

Table 4-13
Dioxins (Total) in Soil
Lower Darby Creek Area

Sampling Location	Value	Units	Sample Event ID	Sample Date	Sample Matrix Code	Location Type	Chemical Name	Method
RBC for residential soil*	4.3	pg/g						
ESV**	10000	pg/g						
GP241	8.87	pg/g	LD-SB-GP241D-0106	01/05/06	SB	DEEP SOIL	dioxin (total pcdds + pcdfs)***	1998 WHO TEQ
GP241	18.43	pg/g	LD-SB-GP241D-0106	01/05/06	SB	DEEP SOIL	dioxin (total pcdds + pcdfs)	1989 TEQ
GP245	47.26	pg/g	LD-SB-GP245D-0106	01/06/06	SB	DEEP SOIL	dioxin (total pcdds + pcdfs)	1998 WHO TEQ
GP245	45.34	pg/g	LD-SB-GP245D-0106	01/06/06	SB	DEEP SOIL	dioxin (total pcdds + pcdfs)	1989 TEQ
GP249	1.2041	pg/g	LD-SS-GP249S-0106	01/25/06	SS	SHALLOW SOIL	dioxin (total pcdds + pcdfs)	1998 WHO TEQ
GP249	2.3796	pg/g	LD-SS-GP249S-0106	01/25/06	SS	SHALLOW SOIL	dioxin (total pcdds + pcdfs)	1989 TEQ
GP250	0.7521	pg/g	LD-SS-GP250S-0106	01/25/06	SS	SHALLOW SOIL	dioxin (total pcdds + pcdfs)	1998 WHO TEQ
GP250	0.9483	pg/g	LD-SS-GP250S-0106	01/25/06	SS	SHALLOW SOIL	dioxin (total pcdds + pcdfs)	1989 TEQ
GP251	0.3175	pg/g	LD-SS-GP251S-0106	01/25/06	SS	SHALLOW SOIL	dioxin (total pcdds + pcdfs)	1998 WHO TEQ
GP251	0.469	pg/g	LD-SS-GP251S-0106	01/25/06	SS	SHALLOW SOIL	dioxin (total pcdds + pcdfs)	1989 TEQ

* USEPA Region III Risk Based Concentrations for 2,3,7,8-tetrachlorodibenzodioxin, October 2007

** USEPA BTAG Screening Benchmark (1995)

** Total toxic equivalency (TEQ) of polychlorinated dibenzo-p-dioxin (PCDDs) and dibenzofurans (PCDFs)

Bold concentrations area over the lower of the RBC and the ESV.

Table 4-14
Background Soil Sampling Results for the Korman Suites Property, April 2007
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Analyte	CAS	Units	RBC**	ESV***	Basis	PSS013D	PSS013S	PSS015D	PSS015S	PSS018D	PSS018S	PSS019D	PSS019S	PSS027D	PSS027S	PSS029D	PSS029S	PSS030D	PSS030S	PSS98*					
Sampling Date						4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	
Description						common fill																			
Depth						18"	0"-6"	14"	0"-6"	-	0"-6"	18"	0"-6"	12"	0"-6"	18"	0"-6"	18"	0"-6"	18"	0"-6"	18"	0"-6"	18"	
SEMI-VOLATILE ORGANIC COMPOUNDS																									
2-Methylnaphthalene	91-57-6	ug/Kg	310000		N	9.4 J	8.3 J	0	0	0	0	0	0	9.4 J	0	8.7 J	11 J	0	0	9.2 J					
Acenaphthene	83-32-9	ug/Kg	4700000	100	N	18 J	0	0	0	0	0	0	0	25 J	19 J	0	26 J	0	0	18 J					
Acenaphthylene	208-96-8	ug/Kg				18 J	10 J	0	0	0	0	0	0	0	0	11 J	12 J	0	0	0					
Acetophenone	98-86-2	ug/Kg	7800000		N	22 J	18 J	24 J	20 J	18 J	22 J	22 J	20 J	20 J	23 J	61 J	45 J	35 J	47 J	45 J					
Anthracene	120-12-7	ug/Kg	23000000	100	N	48 J	20 J	0	0	0	11 J	0	19 J	45 J	36 J	20 J	54 J	0	12 J	50 J					
Benzaldehyde	100-52-7	ug/Kg	7800000		N	25 J	24 J	37 J	26 J	24 J	29 J	25 J	21 J	24 J	21 J	40 J	33 J	33 J	39 J	35 J					
Benzo(a)anthracene	56-55-3	ug/Kg	220	100	C	250	110 J	0	63 J	0	54 J	40 J	87 J	180 J	150 J	120 J	380	27 J	71 J	230					
Benzo(a)pyrene	50-32-8	ug/Kg	22	100	C	240	130 J	0	58 J	0	47 J	40 J	79 J	150 J	120 J	120 J	490	22 J	76 J	220					
Benzo(b)fluoranthene	205-99-2	ug/Kg	220	100	C	330	190 J	0	80 J	0	70 J	54 J	130 J	260	190 J	190 J	650	34 J	120 J	340					
Benzo(g,h,i)perylene	191-24-2	ug/Kg		100		140 J	72 J	0	0	0	0	0	37 J	71 J	45 J	56 J	310	0	0	68 J					
Benzo(k)fluoranthene	207-08-9	ug/Kg	2200	100	C	130 J	48 J	0	25 J	0	28 J	24 J	35 J	81 J	86 J	58 J	240	9.2 J	33 J	100 J					
Bis(2-ethylhexyl)phthalate		ug/Kg				0	0	0	0	0	0	0	0	24 J	0	0	0	0	50 J	64 J					
Butylbenzylphthalate		ug/Kg				0	40 J	0	0	0	0	0	0	0	0	0	0	0	0	17 J					
Carbazole	86-74-8	ug/Kg	32000		C	17 J	9.5 J	0	0	0	0	0	10 J	38 J	25 J	0	29 J	0	0	23 J					
Chrysene	218-01-9	ug/Kg	22000	100	C	250	100 J	0	51 J	0	52 J	39 J	90 J	190	150 J	120 J	380	18 J	69 J	220					
Dibenzo(a,h)anthracene		ug/Kg		100		32 J	0	0	0	0	0	0	0	31 J	0	0	110 J	0	0	0					
Dibenzofuran	132-64-9	ug/Kg	78000		N	0	0	0	0	0	0	0	0	0	14 J	0	11 J	0	0	0					
Diethylphthalate		ug/Kg				0	0	0	0	0	0	0	0	0	0	0	0	9.4 J	0	0					
Di-n-butylphthalate		ug/Kg				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Fluoranthene	206-44-0	ug/Kg	3100000	100	N	440	190 J	17 J	87 J	0	100 J	78 J	160 J	420	360	210 J	490	34 J	120 J	410					
Fluorene	86-73-7	ug/Kg	3100000	100	N	20 J	9.4 J	0	0	0	0	0	8.9 J	24 J	20 J	0	27 J	0	0	19 J					
Indeno(1,2,3-cd)pyrene		ug/Kg		100		150 J	87 J	0	0	0	21 J	0	48 J	110 J	74 J	79 J	420	0	45 J	110 J					
Isophorone	78-59-1	ug/Kg	670000		C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Naphthalene	91-20-3	ug/Kg	1600000	100	N	12 J	11 J	12 J	12 J	8.6 J	8.8 J	7.9 J	10 J	19 J	12 J	14 J	16 J	8.1 J	9.2 J	15 J					
Phenanthrene	85-01-8	ug/Kg		100		250	98 J	0	21 J	0	55 J	39 J	92 J	340	280	87 J	260	15 J	52 J	240					
Phenol	108-95-2	ug/Kg	23000000	100	N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Pyrene	129-00-0	ug/Kg	2300000	100	N	440	200 J	18 J	72 J	0	95 J	71 J	150 J	340	280	210	550	34 J	120 J	400					
PCB																									
Aroclor 1260	11096825	ug/Kg	320	100	C			8.2 J	6.1 J									26 J	44 J	55 J					
PESTICIDES																									
4,4'-DDD		ug/Kg		100		0.57 J	0	1.6 J	0.6 J	0	0.14 J	1.3 J	0.42 J	0	0.42 J	3.2 J	1.7 J	0.61 J	3.3 J	0.74 J					
4,4'-DDE		ug/Kg		100		1.6 J	0.77 J	0.24 J	0.42 J	0	1.1 J	0.7 J	0.62 J	0.55 J	0.49 J	1.3 J	1 J	0.97 J	4.5	1.1 J					
4,4'-DDT		ug/Kg		100		4.2	2.1 J	2.2 J	0.85 J	0	1.9 J	1.2 J	1.5 J	8.1	2.2 J	3.9 J	3 J	3.4 J	12 J	4.5 J					
Aldrin	309-00-2	ug/Kg	38	100	C	0	0.15 J	0.097 J	0.18 J	0	0.089 J	0.12 J	0.28 J	0.045 J	0.29 J	0.16 J	0.11 J	0	0.036 J	0.23 J					
alpha-BHC		ug/Kg				0	0	0	0	0	0	0	0	0	0	0	0.032 J	0.12 J	0.037 J	0.55 J					
alpha-Chlordane	5103-71-9	ug/Kg				0.29 J	0.25 J	0.065 J	0.11 J	0	0.09 J	0	0.45 J	1.3 J	0.22 J	0.11 J	1.6 J	0.18 J	1.8 J	0.29 J					
beta-BHC		ug/Kg				0	0	0	0	0	0	0	0	0	0	0	0	0.4 J	0.12 J	1.9 J					
delta-BHC		ug/Kg				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Dieldrin	60-57-1	ug/Kg	40	100	C	1.1 J	0.3 J	0.51 J	0.67 J	0	0.095 J	0.25 J	0.42 J	0.76 J	0.42 J	0.64 J	0.53 J	0.64 J	1.3 J	2.4 J					
Endosulfan I		ug/Kg				0	0.052 J	0	0	0	0	0	0	0	0	0	0	0	0	0					
Endosulfan II		ug/Kg				0.41 J	0.25 J	0.22 J	0.11 J	0	0	0.3 J	0.23 J	0.14 J	0.28 J	0.16 J	0.25 J	0.33 J	0.46 J	0.49 J					
Endosulfan sulfate	1031-07-8	ug/Kg				0	0	0	0	0	0	0.025 J	0.049 J	0	0.04 J	0.13 J	0.16 J	0	0	0					
Endrin	72-20-8	ug/Kg	24000	100	N	0.4 J	0	0.23 J	0.2 J	0	0.14 J	0.58 J	0	0.47 J	0	0.21 J	0.1 J	0.26 J	0.45 J	0.66 J					
Endrin aldehyde	7421-93-4	ug/Kg				0	0	0.13 J	0	0	0	0	0.46 J	1.3 J	0	0	1.1 J	1.9 J	0.35 J	0.55 J					
Endrin ketone	53494-70-5	ug/Kg				1.9 J	0	0	0	0	0	1.6 J	0	0	0	0.64 J	0.96 J	2 J	4.7 J	4 J					
gamma-Chlordane	12789-03-6	ug/Kg				0.44 J	0.078 J	0.11 J	0.2 J	0	0	0.22 J	0.53 J	1.2 J	0.23 J	0.11 J	2.1	0.32 J	2.3	0.46 J					
Heptachlor	76-44-8	ug/Kg	140		C	0.064 J	0	0	0	0	0.063 J	0.25 J	0.051 J	0.19 J	0.056 J	0.055 J	0.25 J	0	0	0					
Heptachlor epoxide	1024-57-3	ug/Kg	70	100	C	2.7	0.51 J	0.17 J	0	0	0.52 J	0.077 J	0.98 J	4.5	1.2 J	0.06 J	1.9 J	0.35 J	2.3 J	0.59 J					
Methoxychlor	72-43-5	ug/Kg	390000	100	N	0.33 J	1.3 J	0	0.58 J	0.22 J	0.49 J	2.7 J	0.48 J	1.1 J	1.4 J	0.86 J	1.3 J	0.83 J	0.89 J	2.3 J					

* PSS98 is a duplicate of PSS30D

** USEPA Region III RBC for residential soil (October 2007)

*** USEPA BTAG Screening Benchmark (1995)

Table 4-14
Background Soil Sampling Results for the Korman Suites Property, April 2007

Analyte	CAS	Units	RBC**	ESV***	Basis	PSS013D	PSS013S	PSS015D	PSS015S	PSS018D	PSS018S	PSS019D	PSS019S	PSS027D	PSS027S	PSS029D	PSS029S	PSS030D	PSS030S	PSS98*						
						4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007		
						common fill																				
						18"	0"-6"	14"	0"-6"	-	0"-6"	18"	0"-6"	12"	0"-6"	18"	0"-6"	12"	0"-6"	18"	0"-6"	18"	0"-6"	18"		
TOTAL METALS	ALUMINUM	7429-90-5	mg/Kg	78000	1	N	7920	9730	13200	8980	8240	8290	5720	4750	4010	6130	8880	6530	8870	5500	9060					
	ANTIMONY	7440-36-0	mg/Kg	31	0.48	N	R	R	R	R	R	R	R	UL	2.9	J	UL									
	ARSENIC	7440-38-2	mg/Kg	0.43	328	C	3.7	4.9	11.4	6.7	3.5	4.5	2.4	2.8	2.4	3.8	4.1	3.9	4.5	6.2	4.5	J				
	BARIUM	7440-39-3	mg/Kg	16000	440	N	69.7	144	128	80.6	34.9	53.7	28.7	39.6	31.6	51.2	75.8	59.3	145	219	221	J				
	BERYLLIUM	7440-41-7	mg/Kg	160	0.02	N	0.5	0.62	0.88	0.62	0.52	0.52	0.35	0.37	0.24	0.43	0.6	0.5	0.55	0.35	0.6	J				
	CADMIUM	7440-43-9	mg/Kg	39	2.5	N	0	0.35	2.1	0.9	0	0.19	0	0.22	0	0	0.23	0	0.27	0.43	1.1	J				
	CALCIUM	7440-70-2	mg/Kg				2230	2680	2620	1980	550	747	593	1270	9380	1520	2310	1800	13200	2880	3520	J				
	CHROMIUM		mg/Kg				0.0075	18.8	23.8	59.5	32.3	13.3	15.9	12.5	15	8	14.2	22	16.7	23.5	17.6	26.8				
	COBALT	7440-48-4	mg/Kg				0.1	7	8.3	10.4	10.2	8.6	8.6	6.2	6.5	4.2	6.2	7.6	5.6	7.7	5.6	8.4				
	COPPER	7440-50-8	mg/Kg	3100	15	N	20.6	27.7	49.1	27.4	15.4	15.6	11.3	13.1	13.1	14.4	20.6	18.2	38.2	82.8	43.4	L				
	CYANIDE	57-12-5	mg/Kg	1600	0.005	N	UL	UL	0.23	0.24	B	UL	UL	0.28	B	0	0	0	0	0.26	B	0				
	IRON	7439-89-6	mg/Kg	55000	12	N	13400	16400	21600	16700	16100	15600	12100	9050	8430	13800	14600	11400	15200	50500	16700	J				
	LEAD	7439-92-1	mg/Kg				0.01	35.5	50	68.3	42.5	5.6	34.1	6.2	19.8	42.5	47.1	54.1	39.9	92.5	190	138				
	MAGNESIUM	7439-95-4	mg/Kg					2390	2900	4210	3110	2160	1830	1610	1620	6010	1720	2750	1990	6550	1990	3110				
	MANGANESE	7439-96-5	mg/Kg	1600	330	N	304	364	338	498	304	337	241	188	186	245	257	272	340	282	301	L				
	MERCURY	7439-97-6	mg/Kg				0.058	0.067	0.13	0.37	0.21	0.018	0.071	0.023	0.11	0.27	0.13	0.098	0.072	0.15	0.085	0.14	J			
	NICKEL	7440-02-0	mg/Kg	1600	2	N	12.2	15.7	23.2	17.9	12.8	10.8	9	11.3	5.9	8.2	14.5	11.3	16.1	12	20.3	J				
	POTASSIUM	7440-09-7	mg/Kg				760	947	1500	1140	934	829	686	561	473	534	781	600	1130	1990	999	J				
	SELENIUM	7782-49-2	mg/Kg	390	1.8	N	0	0	1.3	0	0	0	0	R	R	R	R	R	R	R	2.7	J				
	SILVER	7440-22-4	mg/Kg	390	0.0098	N	0	0	0.81	0.35	J	0	0	0	0	0	0	0	0.32	1.7	0.46	J				
	SODIUM	7440-23-5	mg/Kg				336	448	884	488	235	265	153	202	197	261	356	296	480	640	563	J				
	THALLIUM	7440-28-0	mg/Kg	5.5	0.001	N	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	J	0				
	VANADIUM	7440-62-2	mg/Kg	78	0.5	N	21.6	25.2	35.9	24.5	20.6	22.7	17.7	14.7	11	18.9	24	17.8	25.5	24.3	28.3	J				
	ZINC	7440-66-6	mg/Kg	23000	10	N	67.6	103	307	125	34.3	60.5	25.5	51.7	44.3	50.9	80.1	62.3	129	153	190	J				
VOCs	Methylene chloride	75-09-2	ug/Kg	85000	300	C	4.1	J		33		9.2	0.59	J	2.2	J		17	3.3	J	3.7	J	44		2.2	B
	Tetrachloroethene		ug/Kg				0		0		0	0	0			0	0	0	0	0	0	0	0	0	0	0
	Toluene	108-88-3	ug/Kg	6300000	100	N	0.22	B	0.39	B		0	0	0	0	0.43	B	0.4	B	0	0.29	B	0	0	0	0
	Trichlorofluoromethane	75-69-4	ug/Kg	23000000		N	0		1.2	J		0	0	0	0	0.91	J	0	0	0	1.5	J	0	0	0	0

* PSS98 is a duplicate of PSS30D

** USEPA Region III RBC for residential soil (October 2007)

*** USEPA BTAG Screening Benchmark (1995)

Table 4-15
Soil Sampling Results for the John Heinz NWR, April 2007
3 of 4

Analyte	CAS	Units	RBC*	ESV**	Basis	PSS010D	PSS010S	PSS07D	PSS07S	PSS08D	PSS08S	PSS09D	PSS09S	
						4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	
						native sand	-	brick, gravel	-	glass, fill, debris	glass, fill, debris	brick, gravel	-	
						24"	0"-6"	12"	0"-6"	-	0"-6"	17"	0"-6"	
Depth														
SEMI-VOLATILE ORGANIC COMPOUNDS	2-Methylnaphthalene	91-57-6	ug/Kg	310000		N	20 J	8.5 J	21 J	19 J	15 J	9.8 J	34 J	0
	Acenaphthene	83-32-9	ug/Kg	4700000	100	N	16 J	10 J	72 J	59 J	35 J	40 J	70 J	0
	Acenaphthylene	208-96-8	ug/Kg				11 J	0	0	0	19 J	22 J	11 J	0
	Acetophenone	98-86-2	ug/Kg	7800000		N	26 J	30 J	23 J	24 J	110 J	36 J	42 J	22 J
	Anthracene	120-12-7	ug/Kg	23000000	100	N	37 J	33 J	130 J	110 J	97 J	120 J	160 J	0
	Benzaldehyde	100-52-7	ug/Kg	7800000		N	25 J	29 J	23 J	28 J	110 J	29 J	43 J	38 J
	Benzo(a)anthracene	56-55-3	ug/Kg	220	100	C	170 J	130 J	280	380	670	530	430	0
	Benzo(a)pyrene	50-32-8	ug/Kg	22	100	C	160 J	110 J	210 J	330	630	380	350	0
	Benzo(b)fluoranthene	205-99-2	ug/Kg	220	100	C	210 J	140 J	310 J	470	1100	640	560	0
	Benzo(g,h,i)perylene	191-24-2	ug/Kg		100		95 J	55 J	93 J	200 J	260 J	150 J	110 J	0
	Benzo(k)fluoranthene	207-08-9	ug/Kg	2200	100	C	96 J	59 J	100 J	180 J	370	210 J	220 J	0
	Bis(2-ethylhexyl)phthalate		ug/Kg				27 J	22 J	0	0	2500	55 J	22 J	22 J
	Butylbenzylphthalate		ug/Kg				0	0	0	0	47 J	12 J	0	0
	Carbazole	86-74-8	ug/Kg	32000		C	18 J	14 J	46 J	49 J	60 J	33 J	75 J	0
	Chrysene	218-01-9	ug/Kg	22000	100	C	170 J	110 J	250	380	710	450	440	0
	Dibenzo(a,h)anthracene		ug/Kg		100		0	0	29 J	65 J	97 J	74 J	0	0
	Dibenzofuran	132-64-9	ug/Kg	78000		N	9.2 J	0	34 J	25 J	0	0	79 J	0
	Diethylphthalate		ug/Kg				0	0	0	0	0	0	0	0
	Di-n-butylphthalate		ug/Kg				0	0	0	0	58 J	14 J	0	0
	Fluoranthene	206-44-0	ug/Kg	3100000	100	N	280	220	560	690	1300	960	1200	0
	Fluorene	86-73-7	ug/Kg	3100000	100	N	17 J	13 J	72 J	53 J	35 J	51 J	120 J	0
	Indeno(1,2,3-cd)pyrene		ug/Kg		100		100 J	63 J	110 J	230	370 J	250 J	160 J	0
	Isophorone	78-59-1	ug/Kg	670000		C	0	0	0	0	0	0	0	0
	Naphthalene	91-20-3	ug/Kg	1600000	100	N	26 J	11 J	20 J	23 J	27 J	21 J	48 J	0
	Phenanthrene	85-01-8	ug/Kg		100		180 J	140 J	450	410	520	570	1200	0
Phenol	108-95-2	ug/Kg	23000000	100	N	0	0	0	0	0	0	0	0	
Pyrene	129-00-0	ug/Kg	2300000	100	N	270	190 J	430	650	920	740	960	0	
PCB	Aroclor 1260	11096825	ug/Kg	320	100	C	37 J	55 J			850 J	49 J		
PESTICIDES	4,4'-DDD		ug/Kg		100		1.3 J	0.52 J	0.12 J	1.5 J	960	3.4 J	0.32 J	0
	4,4'-DDE		ug/Kg		100		0.15 J	0.68 J	0.26 J	1.1 J	200	4.3	0	0
	4,4'-DDT		ug/Kg		100		0.35 J	3.6 J	1.3 J	13	0	8 J	1.3 J	0
	Aldrin	309-00-2	ug/Kg	38	100	C	0	0	0	0	0	0	0	0
	alpha-BHC		ug/Kg				0	0.1 J	0	0.43 J	5.9	0.081 J	0	0
	alpha-Chlordane	5103-71-9	ug/Kg				0.21 J	0.25 J	0	0	68 J	2.5 J	0	0
	beta-BHC		ug/Kg				0	0	0	0	0.71 J	0	0	0
	delta-BHC		ug/Kg				0	0	0	0	1.7 J	0	0	0
	Dieldrin	60-57-1	ug/Kg	40	100	C	1.2 J	2.2 J	0.14 J	0.78 J	40 J	4.7 J	0.17 J	0
	Endosulfan I		ug/Kg				0	0	0	0	0	0	0	0
	Endosulfan II		ug/Kg				0.18 J	0.26 J	0.24 J	0.87 J	5 J	0.47 J	0.25 J	0
	Endosulfan sulfate	1031-07-8	ug/Kg				0	0	0	0.55 J	0	0.27 J	0	0
	Endrin	72-20-8	ug/Kg	24000	100	N	0.44 J	0.26 J	0.088 J	2.5 J	11 J	0.6 J	0.072 J	0
	Endrin aldehyde	7421-93-4	ug/Kg				0	0	0	4.4 J	3.4 J	0	0	0
	Endrin ketone	53494-70-5	ug/Kg				2.3 J	3.6 J	0	4.9 J	0	0	0	0
	gamma-Chlordane	12789-03-6	ug/Kg				0.26 J	0.2 J	0	1.4 J	75 J	2.1 J	0	0
	Heptachlor	76-44-8	ug/Kg	140		C	0	0.037 J	0.091 J	0	0	0	0	0
	Heptachlor epoxide	1024-57-3	ug/Kg	70	100	C	0.15 J	0.096 J	0	0	15 J	0.11 J	0	0
Methoxychlor	72-43-5	ug/Kg	390000	100	N	0	3.4 J	0.2 J	6.4 J	18 J	2.3 J	0.52 J	0	

* USEPA Region III RBC for residential soil (October 2007)

** USEPA BTAG Screening Benchmark (1995)

Table 4-15
Soil Sampling Results for the John Heinz NWR, April 2007
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Analyte	CAS	Units	RBC*	ESV**	Basis	PSS010D	PSS010S	PSS07D	PSS07S	PSS08D	PSS08S	PSS09D	PSS09S	
						4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007	4/5/2007		
						native sand	-	brick, gravel	-	glass, fill, debris	glass, fill, debris	brick, gravel	-	
						Depth	24"	0"-6"	12"	0"-6"	-	0"-6"	17"	0"-6"
TOTAL METALS	ALUMINUM	7429-90-5	mg/Kg	78000	1	N	2150	4110	9600	8330	11600	8540	9430	10500
	ANTIMONY	7440-36-0	mg/Kg	31	0.48	N					53.3	4.9		
	ARSENIC	7440-38-2	mg/Kg	0.43	328	C	1.2	3	5.5	5.3	40.9	42.5	4.6	4.4
	BARIUM	7440-39-3	mg/Kg	16000	440	N	14.4	42.2	85.3	76.2	1320	535	101	77.4
	BERYLLIUM	7440-41-7	mg/Kg	160	0.02	N	0.15	0.24	0.55	0.51	0.24	0.78	0.6	0.6
	CADMIUM	7440-43-9	mg/Kg	39	2.5	N	0	0.22	0	0.27	8.6	3.1	0.27	0
	CALCIUM	7440-70-2	mg/Kg				860	3370	4120	3710	13000	3840	3280	2030
	CHROMIUM		mg/Kg		0.0075		5.9	12.5	30.3	29.9	79.3	29.8	24.7	28.5
	COBALT	7440-48-4	mg/Kg		0.1		2.7	4.8	8.1	7.7	18.8	15	8.8	9
	COPPER	7440-50-8	mg/Kg	3100	15	N	6.9	19	46.1	25.5	1140	110	24.9	12.1
	CYANIDE	57-12-5	mg/Kg	1600	0.005	N					3.6	0.68	0	0
	IRON	7439-89-6	mg/Kg	55000	12	N	5500	9380	15800	14600	122000	33600	18000	16500
	LEAD	7439-92-1	mg/Kg		0.01		9.2	44.1	128	59.6	3010	698	80	13
	MAGNESIUM	7439-95-4	mg/Kg				836	2660	3180	3290	1240	1120	4080	4280
	MANGANESE	7439-96-5	mg/Kg	1600	330	N	75.6	289	261	289	798	332	478	224
	MERCURY	7439-97-6	mg/Kg		0.058		0.034	0.6	1.2	0.54	1.1	0.6	0.15	0.045
	NICKEL	7440-02-0	mg/Kg	1600	2	N	4.6	8.5	18.1	15.1	154	29	16.4	17.8
	POTASSIUM	7440-09-7	mg/Kg				296	583	927	964	706	830	1180	1180
	SELENIUM	7782-49-2	mg/Kg	390	1.8	N	0	0	0	0	11.5	27.5	1.2	
	SILVER	7440-22-4	mg/Kg	390	0.0098	N	0	0	0	0	10.5	1.4	0	0
	SODIUM	7440-23-5	mg/Kg				186	265	382	387	4980	1680	400	380
	THALLIUM	7440-28-0	mg/Kg	5.5	0.001	N	0	0	0	0	1.3		0	0
	VANADIUM	7440-62-2	mg/Kg	78	0.5	N	4.8	13.9	47	34.8	32	28.8	24.1	27.2
	ZINC	7440-66-6	mg/Kg	23000	10	N	28.2	61.6	84.8	82.5	2290	773	93.2	55.3
VOCs	Methylene chloride	75-09-2	ug/Kg	85000	300	C	1.4	3.3	30	7.8	57	18	5.7	5.9
	Tetrachloroethene		ug/Kg		300		0	0	0	0	17	0	0	0
	Toluene	108-88-3	ug/Kg	6300000	100	N	0.29	0	0.69	0.52	0	0	0.45	0
	Trichlorofluoromethane	75-69-4	ug/Kg	23000000		N	0	0	0.92	0	2.4	1.1	0	0

* USEPA Region III RBC for residential soil (October 2007)

** USEPA BTAG Screening Benchmark (1995)

Table 4-16
Volatile Organic Compounds (VOCs) in Groundwater
Lower Darby Creek Area
Page 1 of 3

Location Name	Sampling Date	Value Units	1,4-dichlorobenzene	Benzene	Bromodichloromethane	Carbon Tetrachloride	Chlorobenzene	Chloroform	Methyl Tert-butyl Ether	Tetrachloroethylene(PCE)	Trichloroethylene (TCE)	Vinyl Chloride
RBC for tap water*		ug/L	0.28	0.34	0.17	0.16	89.6	0.15	2.6	0.1	0.026	0.015
GP001	02/10/03	ug/L	0	0	0	0	0	0	51	0	0	0
GP002	02/10/03	ug/L	0	0	0	0	0	0	0	1 J	0	0
GP007	03/31/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP008	03/31/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP009	03/31/03	ug/L	0	0	0	0	0	0	7 J	4 J	5 J	2 J
GP010	04/01/03	ug/L	0	0	0	0	7 J	0	2 J	0	0	0
GP011	04/01/03	ug/L	0	0	0	0	0	0 B	0	0	2 J	0
GP012	04/01/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP013	04/01/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP014	04/02/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP015	04/02/03	ug/L	0	0	0	0	0	0	2 J	0	0	0
GP016	04/02/03	ug/L	0	0	4 J	0	0	19	0	0	0	0
GP017	04/02/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP018	04/03/03	ug/L	1 J	0	0	0	13	0	0	0	0	0
GP019	04/03/03	ug/L	5 J	0	0	0	26	0	0	0	0	0
GP020	04/03/03	ug/L	0	0	0	1 J	3 J	0 B	0	0	0	0
GP021	04/03/03	ug/L	1 J	0	0	0	2 J	0	0	0	3 J	1 J
GP022	04/04/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP024	04/04/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP025	04/04/03	ug/L	0 UL	0 UL	0 UL	0 UL	0 UL	0 UL	0 UL	0 UL	0 UL	0 UL
GP026	04/07/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP027	04/07/03	ug/L	6 J	7 J	0	0	70	0	0	0	0	0
GP028	04/07/03	ug/L	8 J	3 J	0	0	45	0	0	0	0	0
GP029	04/08/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP030	04/08/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP031	04/08/03	ug/L	0	3 J	0	0	3 J	0	7 J	0	0	0
GP032	04/09/03	ug/L	8 J	2 J	0	0	32	0	0	0	0	0
GP033	04/09/03	ug/L	5 J	2 J	0	0	13	0	0	0	0	0
GP034	04/10/03	ug/L	0	5 J	0	0	16	0	4 J	0	0	0
GP035	04/10/03	ug/L	0	2 J	0	0	64	0	0	0	0	0
GP036	04/10/03	ug/L	0	0	0	0	0	0	1 J	0	0	0
GP037	04/10/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP038	04/11/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP041	04/14/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP042	04/16/03	ug/L	0	0	0	0	0	0	2 J	0	0	0
GP043	04/16/03	ug/L	1 J	0	0	0	0	0	4 J	0	0	0
GP046	04/17/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP047	04/17/03	ug/L	0	0	0	0	0	0	1 J	0	0	0
GP048	04/17/03	ug/L	0	0	0	0	0	0	1 J	0	0	0

* USEPA Region III Risk Based Concentrations, October 2007

Bold concentrations are over RBC

Note that these VOCs were detected at concentrations exceeding the RBCs in at least one sample.

Table 4-16
 Volatile Organic Compounds (VOCs) in Groundwater
 Lower Darby Creek Area
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Location Name	Sampling Date	Value Units	1,4-dichlorobenzene	Benzene	Bromodichloromethane	Carbon Tetrachloride	Chlorobenzene	Chloroform	Methyl Tert-butyl Ether	Tetrachloroethylene(PCE)	Trichloroethylene (TCE)	Vinyl Chloride
RBC for tap water*		ug/L	0.28	0.34	0.17	0.16	89.6	0.15	2.6	0.1	0.026	0.015
GP049	04/17/03	ug/L	0	0	0	0	2 J	0	2 J	0	0	0
GP050	04/18/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP051	04/21/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP052	04/21/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP053	04/21/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP054	04/21/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP055	04/21/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP057	04/22/03	ug/L	0	0	0	0	0	0	0	0	0	0
GP058	04/22/03	ug/L	0	0	0	0	0	0	20	0	0	0
GP067	04/17/03	ug/L	0	0	0	0	0	0	8 J	1 J	0	0
GP081	04/16/03	ug/L	0	0	0	0	0	0	2 J	0	0	0
GP082	07/13/04	ug/L	0	0	0	0	0	0	0	0	0	0
GP083	07/13/04	ug/L	0	0	0	0	0	0	9 J	0	0	0
GP084	07/13/04	ug/L	0	0	0	0	0	0	1 J	0	0	0
GP085	07/14/04	ug/L	0	0	0	0	0	0	0	0	0	0
GP086	07/15/04	ug/L	0	0	0	0	0	0	0	0	0	0
GP087	07/15/04	ug/L	0	0	0	0	0	0	3 J	0	0	0
GP089	07/21/04	ug/L	0	0	0	0	0	0	0	0	0	0
GP090	07/16/04	ug/L	0	0	0	0	0	0	4 J	0	0	0
GP091	07/16/04	ug/L	0	0	0	0	0	0	0	0	0	0
GP092	07/19/04	ug/L	0	0	0	0	0	0	2 J	0	0	0
GP093	07/23/04	ug/L	0	0	0	0	0	0	0	0	0	0
GP096	07/26/04	ug/L	0	0	0	0	1 J	0	3 J	0	0	0
GP098	07/26/04	ug/L	0	0	0	0	3 J	0	2 J	0	0	0
GP102	07/20/04	ug/L	0	0	0	0	0	0	0	0	0	0
GP105	07/14/04	ug/L	0	0	0	0	0	0	1 J	0	0	0
GP106	07/19/04	ug/L	0	0	0	0	0	0	0	0	0	0
GP107	07/19/04	ug/L	0	0	0	0	0	0	0	0	0	0
GP108	07/20/04	ug/L	0	0	0	0	0	0	0	0	0	0
GP109	07/21/04	ug/L	0	0	0	0	0	0	0	0	0	0
GP110	07/23/04	ug/L	0	0	0	0	3 J	0	5 J	0	0	0
GP211	01/19/06	ug/L	0	0	0	0	0.82 J	0	0	0	0	0
GP213	01/17/06	ug/L	0	0	0	0	0	0.64 J	0	0	0	0
GP214	01/17/06	ug/L	0	UL	0	0	0	UL	0	0	0	0
GP215	02/02/06	ug/L	0	0	0	0	1.5 J	0	13	0	0.64 J	0
GP218	01/13/06	ug/L	6.4	5.1	0	0	31	0	0	0	0	0
GP224	01/20/06	ug/L	4.2 J	0 B	0	0	11	0	0	0	0	0
GP227	01/13/06	ug/L	3.8 J	3.8 J	0	0	22	0	0	0	0	0
GP230	01/19/06	ug/L	0	UL	0	B	0	UL	0	0	UL	0

* USEPA Region III Risk Based Concentrations, October 2007

Bold concentrations are over RBC

Note that these VOCs were detected at concentrations exceeding the RBCs in at least one sample.

Table 4-16
 Volatile Organic Compounds (VOCs) in Groundwater
 Lower Darby Creek Area
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Location Name	Sampling Date	Value Units	1,4-dichlorobenzene		Benzene		Bromodichloromethane		Carbon Tetrachloride		Chlorobenzene		Chloroform		Methyl Tert-butyl Ether		Tetrachloroethylene(PCE)		Trichloroethylene (TCE)		Vinyl Chloride	
RBC for tap water*		ug/L	0.28		0.34		0.17		0.16		89.6		0.15		2.6		0.1		0.026		0.015	
GP231	01/26/06	ug/L	2.5 J		4.5 J	0	UL	0	UL	20	L	0	UL	1.5	J	0	UL	0	UL	0	UL	0
GP232	01/12/06	ug/L	0		4.2 J	0		0		3	J	0		0		0		0		0		0
GP233	01/26/06	ug/L	1.5 J		3.8 J	0		0		29		0		6.2		0		0		0		0
GP236	01/11/06	ug/L	0	B	3.3 J	0		0		37		0		13		0		0		0		0
GP237	01/11/06	ug/L	0	B	7.2		0		0	87		0		2.4	J	0		0		0		0
GP238	01/10/06	ug/L	0		0		0		0	2.3	J	0		14		0		0		0		0
GP239	02/02/06	ug/L	4.6 J		0		0		0	32		0		16		0		0		0		0
GP240	01/10/06	ug/L	2.2 J		1.1 J	0		0		18		0		15		0		0		0		0
GP241	01/05/06	ug/L	0	UL	0	UL	0	UL	0	UL	0	UL	0	UL	120	L	0	UL	0	UL	0	UL
GP243	01/05/06	ug/L	18		18		0		0	190		0		13		0		0		0		0
GP244	01/09/06	ug/L	1.3 J		0		0		0	5.2		0		1.9	J	0		0		0		0
GP245	01/06/06	ug/L	2.8 J		0		0		0	1.4	J	0		54		0		0		0		0
GP246	01/06/06	ug/L	2.3 J		2.2 J	0		0		13		0		13		0		0		0		0
GP247	01/09/06	ug/L	0		0		0		0	0		0		1.5	J	0		0		0		0
GP248		Not analyzed																				
GP249		Not analyzed																				
GP250		Not analyzed																				
GP251		Not analyzed																				
GP252		Not analyzed																				
GP253		Not analyzed																				
MW01D	03/27/06	ug/L	0		0		0		0	0		0		0		0		0		0		0
MW01S	03/28/06	ug/L	0		0		0		0	0		0		0		0		0		0		0
MW02	03/27/06	ug/L	0		0		0		0	2	J	0		1	J	0		0		0		0
MW03	03/28/06	ug/L	0		0		0		0	1	J	0		2	J	0		0		0		0
MW04	06/22/06	ug/L	3.4 J		0		0		0	25		0		15		0		0		0		0
MW05D	03/29/06	ug/L	0		0		0		0	0		0		0		0		0		0		0
MW05S	06/21/06	ug/L	1.2 J		0		0		0	15		0		0		0		0		0		0
MW06	06/21/06	ug/L	2.4 J		0		0		0	8.1		0		0		0		0		0		0
MW07D	06/21/06	ug/L	4.2 J		0		0		0	22		0		0		0		0		0		0
MW07S	06/21/06	ug/L	3.1 J		0		0		0	13		0		0		0		0		0		0
MW08	03/28/06	ug/L	0		0		0		0	0		0		0		0		0		0		0
MW09	03/27/06	ug/L	0		0		0		0	0		0		0		0		0		0		0
MW10	06/22/06	ug/L	2.6 J		3.2 J	J	0	UL	0	UL	6.1	L	0	UL	0	B	0	UL	0	UL	0	UL
MW11	06/21/06	ug/L	2.7 J		0	UL	0	UL	0	UL	1.7	J	0	UL	0	B	0	UL	0	UL	0	UL
MW12	06/22/06	ug/L	3.4 J		14		0		0	130		0		1.8	J	0		0		0		0

* USEPA Region III Risk Based Concentrations, October 2007

Bold concentrations are over RBC

Note that these VOCs were detected at concentrations exceeding the RBCs in at least one sample.

Table 4-17
Semivolatile Organic Compounds (SVOCs) in Groundwater
Lower Darby Creek Area
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Location Name	Sampling Date	Value Units	2,6-dinitrotoluene	3,3-dichlorobenzidine	3-nitroaniline	4,6-dinitro-2-methylphenol	4-nitroaniline	atazine	benzo(a)anthracene	benzo(a)pyrene	benzo(b)fluoranthene	benzo(k)fluoranthene	bis(2-chloroisopropyl) ether	bis(2-ethylhexyl) phthalate	carbazole	dibenz(a,h)anthracene	indeno(1,2,3-cd)pyrene	naphthalene	nitrobenzene	n-nitrosod-n-propylamine	
RBC for tap water*		ug/L	37.00	0.15	N/A	N/A	N/A	0.30	0.03	0.003	0.03	0.30	0.26	4.80	3.30	0.003	0.03	6.50	3.50	0.0019	
GP001	02/10/03	ug/L	0	0	0	0	0	0	UJ	0	0	0	0	0	0	0	0	0	B	0	0
GP002	02/10/03	ug/L	0	0	0	0	0	0	UJ	0	0	0	0	0	B	0	0	0	0	0	0
GP007	03/31/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP008	03/31/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP009	03/31/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP010	04/01/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	1	J	0	0	0	2	J	0
GP011	04/01/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP012	04/01/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP013	04/01/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP014	04/02/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP015	04/02/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	4	J	0	0	0	0	0	0
GP016	04/02/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP017	04/02/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP018	04/03/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP019	04/03/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	1	J	0	0
GP020	04/03/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	22	0	0	0	0	0	0	0
GP021	04/03/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP022	04/04/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	0	0	0	0
GP024	04/04/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	0	0	0	0
GP025	04/04/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	0	0	0	0
GP026	04/07/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	1	J	0	0	0	3	J	0
GP027	04/07/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	2	J	0	0	0	2	J	0
GP028	04/07/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	2	J	0	0	0	0	0	0
GP029	04/08/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	0	0	0	0
GP030	04/08/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	0	0	0	0
GP031	04/08/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	0	0	0	0
GP032	04/09/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	0	0	0
GP033	04/09/03	ug/L	0	0	0	0	0	0	6	J	7	J	8	J	8	J	0	0	0	0	0
GP034	04/10/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	2	J	0
GP036	04/10/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	0	0	0
GP037	04/10/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	3	J	0
GP043	04/16/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	9	J	0	0	0	0	0	0
GP046	04/17/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP047	04/17/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP048	04/17/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP049	04/17/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP050	04/18/03	ug/L	0	0	0	0	0	0	3	J	2	J	2	J	2	J	0	0	0	0	0
GP051	04/21/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP052	04/21/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP053	04/21/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP055	04/21/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP058	04/22/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP067	04/17/03	ug/L	0	0	0	0	0	0	7	J	8	J	8	J	8	J	0	0	4	J	3
GP081	04/16/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	0	0	0	0
GP084	07/13/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

* USEPA Region III Risk Based Concentrations, October 2007

Bold concentrations are over RBC

Note that these SVOCs were detected at concentrations exceeding the RBCs in at least one sample.

Table 4-17
Semivolatile Organic Compounds (SVOCs) in Groundwater
Lower Darby Creek Area
Page 2 of 3

Location Name	Sampling Date	Value Units	2,6-dinitrotoluene	3,3-dichlorobenzidine	3-nitroaniline	4,6-dinitro-2-methylphenol	4-nitroaniline	atazine	benzo(a)anthracene	benzo(a)pyrene	benzo(b)fluoranthene	benzo(k)fluoranthene	bis(2-chloroisopropyl) ether	bis(2-ethylhexyl) phthalate	carbazole	dibenz(a,h)anthracene	indeno(1,2,3-c)pyrene	naphthalene	nitrobenzene	n-nitrosod-n-propylamine
RBC for tap water*		ug/L	37.00	0.15	N/A	N/A	N/A	0.30	0.03	0.003	0.03	0.30	0.26	4.80	3.30	0.003	0.03	6.50	3.50	0.0019
GP085	07/14/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	1	J	0	0	0	0	0
GP086	07/15/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP087	07/15/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	7	J	0	0	0	0	0
GP089	07/21/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP090	07/16/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP091	07/16/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP092	07/19/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP093	07/23/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP096	07/26/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP098	07/26/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	9	J	0	0	0	0	0
GP102	07/20/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP105	07/14/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	4	J	0	0	0	0	0
GP106	07/19/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP107	07/19/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP108	07/20/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP109	07/21/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP110	07/23/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP211	01/19/06	ug/L	0	0	0	0	0	0	UL	0	R	0	R	0	0	0	R	0	R	0
GP213	01/17/06	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GP214	01/17/06	ug/L	0	0	0	0	0	0	UL	0	UL	0	R	0	R	0	R	0	R	0
GP215	02/02/06	ug/L	0	0	0	0	0	0	UL	0	UL	0	R	0	R	0	R	0	R	0
GP218	01/13/06	ug/L	0	0	UL	0	0	0	UL	8.4	J	7.6	J	10	J	3.6	J	0	0	0
GP224	01/20/06	ug/L	0	0	0	0	0	0	UL	1.8	J	1.2	J	1.7	J	0.76	J	0	0	0
GP227	01/13/06	ug/L	0	0	0	R	0	0	UL	0	UL	0	R	0	R	0	R	0	R	0
GP230	01/19/06	ug/L	0	0	0	0	0	0	UL	0	UL	0	UL	0	UL	0	UL	0	UL	0
GP232	01/12/06	ug/L	3.6	J	0	4.7	J	3.7	J	5.4	J	0	0	0	0	0	0	0	0	0
GP233	01/26/06	ug/L	0	UL	0	0	0	0	UL	0	UL	0	R	0.63	J	0	R	0	0	0
GP236	01/11/06	ug/L	0	0	0	0	0	0	UL	0	UL	0	UL	0	UL	0	UL	0	UL	0
GP237	01/11/06	ug/L	48	0	0	7.1	J	3.9	J	3.4	J	3.3	J	3.6	J	2.8	J	3.9	J	3.7
GP238	01/10/06	ug/L	0	4.3	J	12	J	0	0	0	0	0	0	3.4	J	3.2	J	3.1	J	14
GP239	02/02/06	ug/L	0	0	0	0	0	0	UL	0.89	J	0	UL	0.63	J	0	UL	0	UL	0
GP241	01/05/06	ug/L	0	0	0	0	0	0	UL	0	UL	0	UL	0	UL	0	UL	0	UL	0
GP243	01/05/06	ug/L	0	0	0	0	0	0	UL	0.52	J	6.6	J	8.7	J	16	J	0	2.5	J
GP244	01/09/06	ug/L	0	0	0	0	0	0	UL	1	J	1	J	1.3	J	0.56	J	0	0.81	J
GP245	01/06/06	ug/L	0	0	0	0	0	0	UL	3.1	J	7.1	J	9.7	J	4.8	J	0	0.52	J
GP246	01/06/06	ug/L	0	0	0	0	0	0	0	1.1	J	0.88	J	1.3	J	0	0	1	J	1.5
GP247	01/09/06	ug/L	0	UL	0	0	0	0	UL	2.9	J	2.9	J	4.2	J	1.5	J	0	3.2	J
GP248			Not analyzed																	
GP249			Not analyzed																	
GP250			Not analyzed																	
GP251			Not analyzed																	
GP252			Not analyzed																	
GP253			Not analyzed																	
MW01D	03/27/06	ug/L	0	UJ	0	UJ	0	UJ	0	R	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ
MW01S	03/28/06	ug/L	0	0	0	0	0	R	0	0	0	0	0	0	0	0	0	0	0	0

* USEPA Region III Risk Based Concentrations, October 2007

Bold concentrations are over RBC

Note that these SVOCs were detected at concentrations exceeding the RBCs in at least one sample.

Table 4-17
Semivolatile Organic Compounds (SVOCs) in Groundwater
Lower Darby Creek Area
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Location Name	Sampling Date	Value Units	2,6-dinitrotoluene	3,3-dichlorobenzidine	3-nitroaniline	4,6-dinitro-2-methylphenol	4-nitroaniline	atrazine	benzo(a)anthracene	benzo(a)pyrene	benzo(b)fluoranthene	benzo(k)fluoranthene	bis(2-chloroisopropyl) ether	bis(2-ethylhexyl) phthalate	carbazole	dibenz(a,h)anthracene	indeno(1,2,3-c,d)pyrene	naphthalene	nitrobenzene	n-nitrosodipropylamine						
RBC for tap water*		ug/L	37.00	0.15	N/A	N/A	N/A	0.30	0.03	0.003	0.03	0.30	0.26	4.80	3.30	0.003	0.03	6.50	3.50	0.0019						
MW02	03/27/06	ug/L	0	UJ	0	UJ	0	UJ	0	R	0	UJ	0	UJ	0	UJ	0	UJ	0	J	0	UJ				
MW03	03/28/06	ug/L	0	0	0	0	0	0	0	R	0	0	0	0	0	0	0	0	0	0	0	0				
MW04	06/22/06	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	B	0.22	J	0	1.6	J	0	0				
MW05D	03/29/06	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	0	0	0	0	0				
MW05S	06/21/06	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	0	1.3	J	0	0				
MW06	06/21/06	ug/L	0	0	0	0	0	0	0	0	0	0	0	0	B	0	0	0	0.75	J	0	0				
MW07D	06/21/06	ug/L	0	0	R	0	0	0	0	0	0	0	0	0	B	0	0	0	0.32	J	0	0				
MW07S	06/21/06	ug/L	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0.23	J	0	J	0	UJ		
MW08	03/28/06	ug/L	0	0	0	0	0	0	0	R	0	0	0	0	0	0	0	0	0	0	0	0				
MW09	03/27/06	ug/L	0	UJ	0	UJ	0	UJ	0	R	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	J	0	UJ		
MW10	06/22/06	ug/L	0	0	0	R	0	0	R	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
MW11	06/21/06	ug/L	0	0	0	0	0	0	UL	0.47	J	0.33	J	0.39	J	0.18	J	0	0.21	J	0	UL	2.7	J	0	0
MW12	06/22/06	ug/L	0	0	0	0	0	0	UL	0	UL	0	UL	0	UL	0	UL	0	UL	0	UL	5.5	0	0	0	

* USEPA Region III Risk Based Concentrations, October 2007

Bold concentrations are over RBC

Note that these SVOCs were detected at concentrations exceeding the RBCs in at least one sample.

Table 4-18
Pesticides and Polychlorinated Biphenyls (PCBs) in Groundwater
Lower Darby Creek Area
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Location Name	Sampling Date	Value Units	Aldrin	Alpha BHC (alpha hexachlorocyclohexane)	Beta BHC (beta hexachlorocyclohexane)	Dieldrin	Gamma BHC (Lindane)	Heptachlor	Heptachlor Epoxide	p,p-DDD	p,p-DDE	p,p-DDT	PCB-1242 (Arochlor 1242)	PCB-1260 (Arochlor 1260)	PCB-1016 (Arochlor 1016)	PCB-1248 (Arochlor 1248)	Total Pesticides**	Total PCBs**		
RBC for tap water*		ug/L	0.004	0.011	0.037	0.0042	0.052	0.015	0.007	0.280	0.200	0.200	0.033	0.033	0.033	0.033				
GP011	04/01/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP012	04/01/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP013	04/01/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP014	04/02/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP015	04/02/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP016	04/02/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP017	04/02/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP018	04/03/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP019	04/03/03	ug/L	0	0	0	0	0	0	0	0.13	J	0	0.1	J	2.8		0.23	2.8		
GP020	04/03/03	ug/L	0.18	0	0	0	0	0	0	0.11	J	0	0	0	1.4		0.29	1.4		
GP021	04/03/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP022	04/04/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP024	04/04/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP025	04/04/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP026	04/07/03	ug/L	0	0	0	0	0	0	0	0.76	0.22	0.63	0	0			1.61	0		
GP027	04/07/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP028	04/07/03	ug/L	0	0	0	0	0	0	0	0.29	J	0	0.22	0			0.51	0		
GP029	04/08/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP030	04/08/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP031	04/08/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0		
GP032	04/09/03	ug/L	0.11	J	0	UL	0	UL	0	UL	0	UL	0	UL	9	J	0	UL	0.11	9
GP033	04/09/03	ug/L	0.14	0	0	0	0	0	0	0.2	0.13	0	0	2.6	J	0			0.47	2.6
GP034	04/10/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	2.1					0	2.1
GP036	04/10/03	ug/L	0	0	0	0	0	0	0	0.22	0	0	0	1.9	J				0.22	1.9
GP037	04/10/03	ug/L	0	0	0	0	0	0	0.094	J	0	0	0.22	J	0	12			0.314	12
GP043	04/16/03	ug/L	0	UJ	0	UJ	0.11	J	0	UJ	0	UJ	0	UJ	0	UJ			0.189	0
GP046	04/17/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0					0	0
GP048	04/17/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0					0	0
GP049	04/17/03	ug/L	0	UJ	0	UJ	0.16	J	0	UJ	0	UJ	0	UJ	0	UJ			0.16	0
GP050	04/18/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0					0	0
GP053	04/21/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0					0	0

* USEPA Region III Risk Based Concentrations, October 2007

** Total Pesticides and total PCBs are the sum of all pesticides and PCBs, respectively, that are listed in this table.

Bold concentrations are over RBC.

Table 4-18
Pesticides and Polychlorinated Biphenyls (PCBs) in Groundwater
Lower Darby Creek Area
Page 2 of 3

Location Name	Sampling Date	Value Units	Aldrin	Alpha BHC (alpha hexachlorocyclohexane)	Beta BHC (beta hexachlorocyclohexane)	Dieldrin	Gamma BHC (Lindane)	Heptachlor	Heptachlor Epoxide	p,p-DDD	p,p-DDE	p,p-DDT	PCB-1242 (Arochlor 1242)	PCB-1260 (Arochlor 1260)	PCB-1016 (Arochlor 1016)	PCB-1248 (Arochlor 1248)	Total Pesticides**	Total PCBs**							
RBC for tap water*		ug/L	0.004	0.011	0.037	0.0042	0.052	0.015	0.007	0.280	0.200	0.200	0.033	0.033	0.033	0.033									
GP058	04/22/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP067	04/17/03	ug/L	0	0	0	0	0	0	0	0.84	0.16	0.67	J	0	2.1		1.67	2.1							
GP081	04/16/03	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP085	07/14/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP089	07/21/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP091	07/16/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP092	07/19/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP093	07/23/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP096	07/26/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP098	07/26/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP102	07/20/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP105	07/14/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP106	07/19/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP107	07/19/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP108	07/20/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP109	07/21/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP110	07/23/04	ug/L	0	0	0	0	0	0	0	0	0	0	0	0			0	0							
GP211	01/19/06	ug/L	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0.09	0					
GP213	01/17/06	ug/L	0.24	L	0	R	0.14	L	0	R	0.14	L	0.082	J	0	R	0	0.058	J	0	R	0.66	0		
GP214	01/17/06	ug/L	0	R	0	R	0.083	J	0	R	0.18	J	0	R	0	R	0	0.089	J	0	R	0	0		
GP215	02/02/06	ug/L	0.23	J	0	R	0.19	J	0	R	0.06	J	0	R	0	R	0	0.069	J	0.16	J	2.5	0.709	2.5	
GP218	01/13/06	ug/L	0.057		0.0075	J	0	R	0	0.046	J	0.01	J	0.13				0.057	J	0.031	J	0.038	J	0.3765	0
GP224	01/20/06	ug/L	0	R	0	R	0	R	0	0.017	J	0	R	0	R	0	R	0	0	R	0	R		0.017	0
GP227	01/13/06	ug/L	0	R	0	R	0	R	0	0	R	0	R	0	R	0	R	0	0	R	0	R	0.84		0.84
GP230	01/19/06	ug/L	0	R	0	R	0	R	0	0.0089	J	0	R	0	R	0	R	0	0	R	0	R		0.0089	0
GP232	01/12/06	ug/L	0	R	0.0069	J	0	R	0	R	0.038	J	0	R	0	R	0	0	0	R	0	R		0.0449	0
GP233	01/26/06	ug/L	0.14	J	0.012	J	0.14	J	0.029	J	0.17	J	0.077	J	0.13	J	0.0086	J	0.034	J	0.041	J		0.7816	0
GP236	01/11/06	ug/L	0	B	0	R	0.059	L	0.014	J	0.033	J	0	R	0.013	J	0	B	0.015	J	0.091	J	1.2	0.225	1.2
GP237	01/11/06	ug/L	0.088	L	0	R	0	R	0.1	L	0.029	J	0	R	0.037	J	0.075	J	0	R	0.065	J	4.2	0.394	4.2
GP238	01/10/06	ug/L	0	B	0	R	0	R	0.039	J	0	R	0	R	0.025	J	0	R	0	R	0.049	J	0.71	0.113	0.71
GP239	02/02/06	ug/L	0	R	0	R	0	R	0	0	R	0	R	0	R	0	R	0	0	R	0	R	1.3		1.3

* USEPA Region III Risk Based Concentrations, October 2007

** Total Pesticides and total PCBs are the sum of all pesticides and PCBs, respectively, that are listed in this table.

Bold concentrations are over RBC.

Table 4-18
Pesticides and Polychlorinated Biphenyls (PCBs) in Groundwater
Lower Darby Creek Area
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Location Name	Sampling Date	Value Units	Aldrin		Alpha BHC (alpha hexachlorocyclohexane)		Beta BHC (beta hexachlorocyclohexane)		Dieldrin		Gamma BHC (Lindane)		Heptachlor		Heptachlor Epoxide		p,p-DDD		p,p-DDE		p,p-DDT		PCB-1242 (Arochlor 1242)		PCB-1260 (Arochlor 1260)		PCB-1016 (Arochlor 1016)		PCB-1248 (Arochlor 1248)		Total Pesticides**	Total PCBs**
RBC for tap water*		ug/L	0.004		0.011		0.037		0.0042		0.052		0.015		0.007		0.280		0.200		0.200		0.033		0.033		0.033		0.033			
GP241	01/05/06	ug/L	0	B	0		0		0		0		0		0		0		0		0				0.61						0	0.61
GP243	01/05/06	ug/L	1.3	J	0		0	B	0.39	J	0		0		0.1	J	0		0.35	J	0.54	J			54						2.68	54
GP244	01/09/06	ug/L	0		0		0		0.066	J	0		0		0		0	B	0		0	B			2.9					0.066	2.9	
GP245	01/06/06	ug/L	0		0		0		0		0		0		0		0		0		0	B			7.4					0	7.4	
GP246	01/06/06	ug/L	0		0		0		0		0		0		0		0		0.058	J	0	B			2					0.058	2	
GP247	01/09/06	ug/L	0		0		0		0		0		0		0		0		0		0				0.64					0	0.64	
GP248	Not analyzed																														0	0
GP249	Not analyzed																														0	0
GP250	Not analyzed																														0	0
GP251	Not analyzed																														0	0
GP252	Not analyzed																														0	0
GP253	Not analyzed																														0	0
MW01D	03/27/06	ug/L	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ			0	0
MW01S	03/28/06	ug/L	0		0		0.012	J	0		0		0		0		0		0		0		0		0						0.012	0
MW02	03/27/06	ug/L	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ			0	0
MW03	03/28/06	ug/L	0		0		0		0		0		0		0		0		0		0		0		0						0	0
MW04	06/22/06	ug/L	0		0		0.0082	J	0.0055	J	0.0023	J	0.0037	J	0.004	J	0		0		0		0		0						0.0237	0
MW05D	03/29/06	ug/L	0		0	B	0		0		0		0		0		0		0		0		0		0						0	0
MW05S	06/21/06	ug/L	0	UJ	0	UJ	0.066	J	0.015	J	0.011	J	0.0021	J	0.0024	J	0	UJ	0.0018	J	0.004	J	0		0						0.1018	0
MW06	06/21/06	ug/L	0.0034	J	0	UJ	0.046	J	0.0078	J	0.0068	J	0.0007	J	0	UJ	0	UJ	0.0026	J	0	UJ	0		0						0.06728	0
MW07D	06/21/06	ug/L	0		0		0.025	J	0.0028	J	0.0067	J	0.0002	J	0		0.0052	J	0		0.002	J									0.04193	0
MW07S	06/21/06	ug/L	0		0		0.011	J	0.0026	J	0.0033	J	0.0008	J	0		0.0011	J	0		0		0		0						0.01876	0
MW08	03/28/06	ug/L	0		0		0.018	J	0		0		0		0		0		0		0		0		0						0.018	0
MW09	03/27/06	ug/L	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ	0	UJ			0	0
MW10	06/22/06	ug/L	0	R	0	R	0.16	J	0	R	0.017	J	0.032	J	0.014	J	0	R	0.0072	J	0.003	J	0		0				1.3	0.2334	1.3	
MW11	06/21/06	ug/L	0	R	0.023	J	0.12	J	0.18	J	0.065	J	0	R	0.1	J	0	R	0.31	J	0.53	L	3.3	J	1.7	6.7				1.328	11.7	
MW12	06/22/06	ug/L	0	R	0	R	0.14	J	0.051	J	0.026	J	0	R	0	R	0	R	0	R	0	R	0		0					0.217	0	

Note that these compounds were detected at concentrations exceeding the RBCs in at least one sample.
Arochlor 1260 (Sampled June 2006): MW11 = 3 ug/L; MW12 = 0.77 ug/L

* USEPA Region III Risk Based Concentrations, October 2007

** Total Pesticides and total PCBs are the sum of all pesticides and PCBs, respectively, that are listed in this table.

Bold concentrations are over RBC.

Table 4-19
Metals in Groundwater
Lower Darby Creek Area
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Location	Sampling Date	units	Aluminum	Antimony	Arsenic	Barium	Cadmium	Copper	Iron	Lead	Manganese	Nickel	Thallium	Vanadium	Zinc
RBCs for tap water*			36500	14.6	0.0446	7300	18.25	1460	25550	15**	730	730	2.555	36.5	10950
GP011	04/01/03	ug/L	0 B	0	0	79.7 J	0	0 UL	79 J	0 UJ	71 L	0	0	0	0 B
GP012	04/01/03	ug/L	15000 J	0	9.7 J	284	0	24 J	31500	27.8 J	4350 L	15.6 J	0	85	212
GP013	04/01/03	ug/L	13800 J	0	16.2	522	0	71.8	43400	213 J	2020 L	15 J	5.3 J	66.2	343
GP014	04/02/03	ug/L	3940 J	0	3.7 J	224	0	14.8 J	10100	6.1 J	9900 L	8.6 J	9 J	39.6 J	0 B
GP015	04/02/03	ug/L	762 J	0	0	66.8 J	0	0 UL	1060	0 UJ	6740 L	7.5 J	0	3.7 J	0
GP016	04/02/03	ug/L	4160 J	0	0	122 J	0	11.9 J	7670	4.4 J	705 L	3.3 J	0	27.3 J	0 B
GP017	04/02/03	ug/L	7670 J	0	31.4	210	0	23.5 J	41300	59.6 J	1910 L	15.2 J	0	31.5 J	120
GP018	04/03/03	ug/L	3740 J	0	8.2 J	556	0	45.6	34900	289 J	979 L	21 J	0	14 J	413
GP019	04/03/03	ug/L	1520 J	20.8 J	0	738	2.2 J	21.8 J	22500	248 J	323 L	7.7 J	0	6.2 J	986
GP020	04/03/03	ug/L	6220 J	43.5 J	14.2 J	320	2.7 J	67.5	27300	408 J	912 L	26.2 J	0	41.9 J	699
GP021	04/03/03	ug/L	1190 J	0	4.1 J	131 J	2.2 J	191	19500	255 J	1330 L	13.6 J	0	5.2 J	278
GP022	04/04/03	ug/L	1470 J	0	6.7 J	232	0	25.4	27600	71.3 J	555 L	4.9 J	0	4.5 J	150
GP024	04/04/03	ug/L	10400 J	0	43.1	335	0	69.5	81600	112 J	2750 L	18.9 J	0	45.9 J	343
GP025	04/04/03	ug/L	7400 J	0	33.9	288	0	28.5	43800	57.5 J	2920 L	15.5 J	0	21.7 J	200
GP026	04/07/03	ug/L	6400 J	0	49.3	328	0	24.7 J	55400	67 J	1740 L	14.9 J	0	20.8 J	177
GP027	04/07/03	ug/L	470 J	0	3.9 J	868	0	6.2 J	18300	82.2 J	360 L	6.1 J	0	8.7 J	78
GP028	04/07/03	ug/L	1800 J	0 B	9.3 J	662	1.5 J	44.7	26600	274 J	439 L	35.7 J	0	11.2 J	385
GP029	04/08/03	ug/L	85500 L	0 UL	84.9 L	3350 L	16 L	518 L	269000 L	6500 L	9400 L	1480 L	0 UL	360 L	5710 L
GP031	04/08/03	ug/L	2380 L	0 UL	6.6 J	198 J	0 UL	48.8 L	16300 L	50.4 L	440 L	28.3 J	0 UL	20.8 J	78.5 L
GP032	04/09/03	ug/L	1810 L	0 UL	4.1 J	1200 L	8.1 L	9.9 J	26300 L	459 L	275 L	49.5 L	0 UL	331 L	641 L
GP033	04/09/03	ug/L	4980 L	0 UL	8.3 J	1370 L	8.1 L	10.2 J	43400 L	2120 L	403 L	30.8 J	0 UL	16 J	3950 L
GP034	04/10/03	ug/L	11000	16.4 J	32.5	1290	14.5	384	52000	4050	4420	41.9	0 B	95.3	2920
GP036	04/10/03	ug/L	17500	43.9 J	20.1	1140	8.4	578	61700	1630	1860	98.5	0	89.4	2210
GP037	04/10/03	ug/L	6790	0	14.8 J	598	2.7 J	209	15100	7330	345	20 J	0	76.4	861
GP043	04/16/03	ug/L	1500	0	0	211	15.1	122	61500	987	2170	8.3 J	4 J	2.9 J	1270
GP046	04/17/03	ug/L	21900	0	0	141 J	1.8 J	15.7 J	22500	0 UL	805	25.9 J	0 UL	44.2 J	35.5 J
GP048	04/17/03	ug/L	14400	0	0	138 J	1.5 J	10.8 J	18000	0 UL	1840	16.9 J	0 UL	28 J	68.2
GP049	04/17/03	ug/L	32800	0 B	14.7 J	557	4.6 J	60.4	58600	450	1080	34.8 J	0 UL	76.8	350
GP050	04/18/03	ug/L	84.6 J	0	3.6 J	441	0 B	0	388	0 UL	28	1.1 J	0 UL	1.7 J	5.6 J
GP053	04/21/03	ug/L	7140	0	22.1	382	2 J	10.5 J	42900	42.4	2030	10.3 J	0 UL	15.1 J	54.2 J
GP067	04/17/03	ug/L	250000	0	241	6640	60.2	2460	538000	11400	13800	407	0	1020	8590
GP081	04/16/03	ug/L	0 B	0	0	60 J	0	0 UL	108	0	165	0	0 B	0	0 B
GP085	07/14/04	ug/L	8640 J	0	8.4 J	224	0	10 J	84700	11.9	6930	14.6 J	0 UL	16.1 J	83.8
GP089	07/21/04	ug/L	714	0	38.3	441	0	2.9 J	73900	7.4 J	429	13.6 J	0 UL	4.3 J	0
GP091	07/16/04	ug/L	17100 J	0	13.1	300	1.2 J	49.6	21300	358	570	15.1 J	0 UL	37.7 J	237
GP092	07/19/04	ug/L	9590	0	28	153 J	3.2 J	70.8	30800	238	3540	17.9 J	0 UL	37.7 J	150

* USEPA Region III Risk Based Concentrations, October 2007

** EPA Action Level for lead in water.

Bold Concentrations are over RBC

Note that these metals were detected at concentrations exceeding the RBCs in at least one sample

Table 4-19
Metals in Groundwater
Lower Darby Creek Area
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Location	Sampling Date	units	Aluminum	Antimony	Arsenic	Barium	Cadmium	Copper	Iron	Lead	Manganese	Nickel	Thallium	Vanadium	Zinc
GP093	07/23/04	ug/L	1110	0	13.5	230	0	5.8 J	10500	54.6	332	4.5 J	0	6.3 J	34 J
GP096	07/26/04	ug/L	7550	0	2.3 J	276	2.8 J	9 J	8490	2.9 J	2090	12.1 J	0	18.5 J	17.5 J
GP098	07/26/04	ug/L	2640	0	2.4 J	160 J	0.9 J	2.9 J	3650	0	692	6.1 J	0	11 J	3.5 J
GP102	07/20/04	ug/L	1820	0	0	50.3 J	0.87 J	0	1830	0	1430	12.7 J	0 UL	5.5 J	7.6 J
GP105	07/14/04	ug/L	7460 J	0	0 UL	100 J	0	3.6 J	10600	0	3830	12.1 J	0 UL	17.3 J	184
GP106	07/19/04	ug/L	9980 J	0	0 UL	240	0	7.2 J	8850	4.9 J	3030	11.7 J	0 UL	25.5 J	0 B
GP107	07/19/04	ug/L	986 J	0	2.3 J	328	0	0 UL	9910	0	3870	7.2 J	0 UL	2.5 J	0 B
GP108	07/20/04	ug/L	17200	0	11.8	328	4.3 J	12.6 J	54400	15.9	6710	19.2 J	0 UL	52.7	33.4 J
GP109	07/21/04	ug/L	69200	0	16	581	24.1	79.9	103000	52.5	5940	101	0 UL	237	240
GP110	07/23/04	ug/L	899	0	0	60.2 J	0	8 J	748	0	4990	8.7 J	0 UL	1.4 J	0
GP211	01/19/06	ug/L	16800	0 B	15	278	0	58.8	32200	166	1690	25.1 J	0	43.5 J	247
GP213	01/17/06	ug/L	41500	0	36.1	375	0	66.5 J	106000	36.3	3290	52.8	6 J	112	84.3
GP214	01/17/06	ug/L	5470 L	0 B	7.9 J	2290 L	0 UL	30.3 J	11600 L	1060 L	357 L	17.5 J	0 UL	40 J	719 L
GP215	02/02/06	ug/L	3270 L	0 B	11.4 L	1750 L	36.1 L	1740 L	58100 L	2560 L	548 L	85.5 L	0 UL	17.9 J	2610 L
GP218	01/13/06	ug/L	12200 L	0 B	32.6 L	1640 L	5.9 L	422 J	103000 L	1610 L	1070 L	129 L	0 UL	71.5 L	4450 L
GP224	01/20/06	ug/L	3230 L	0 UL	0 B	710 L	0 UL	41.4 L	18200 L	213 L	668 L	10.7 J	0 UL	7.9 J	253 L
GP227	01/13/06	ug/L	2900 L	0 B	6.4 J	860 L	0 UL	37.6 J	19300 L	138 L	451 L	11.7 J	0 UL	9.7 J	197 L
GP230	01/19/06	ug/L	0 B	0 B	0 UL	956 L	0 UL	4.3 J	19900 L	27.8 L	194 L	12.1 J	5.5 J	4.7 J	33.5 J
GP232	01/12/06	ug/L	6580 L	0 B	11.6 L	485 L	0 UL	96.5 J	28800 L	315 L	201 L	31.8 J	0 UL	40.8 J	398 L
GP233	01/26/06	ug/L	15500 L	0 B	26.3 L	2340 L	5.6 L	1740 L	64000 L	2760 L	417 L	111 L	0 UL	50.5 L	4700 L
GP236	01/11/06	ug/L	1340 L	0 UL	4.7 J	1380 L	0 UL	20.6 J	15200 L	197 L	218 L	8.9 J	0 UL	11.5 J	85.2 L
GP237	01/11/06	ug/L	8360 L	27.4 J	10.9 L	1950 L	0 B	273 L	29200 L	2110 L	356 L	34.3 J	0 UL	41.5 J	678 L
GP238	01/10/06	ug/L	12800 L	0 B	14.6 L	1910 L	4.9 J	252 L	57800 L	3530 L	776 L	115 L	6.4 J	750 L	1350 L
GP239	02/02/06	ug/L	18400 L	271 L	10.1 L	1970 L	23.9 L	1880 L	50300 L	2630 L	1080 L	140 L	0 UL	144 L	3260 L
GP240	01/10/06	ug/L	3730 L	0 B	0 UL	637 L	0 B	87.3 L	11100 L	276 L	571 L	17.8 J	0 UL	28.3 J	329 L
GP241	01/05/06	ug/L	312000 L	99.5 L	201 L	7020 L	58.8 L	12500 L	547000 L	12100 L	8070 L	1100 L	27.7 L	5000 L	15900 L
GP243	01/05/06	ug/L	1550 L	0 B	4.3 J	488 L	0 UL	32.9 L	24800 L	929 L	250 L	11.3 J	0 UL	12 J	163 L
GP244	01/09/06	ug/L	3560	0	0	111 J	0	44.1	4320	109	125	36.1 J	0	187	230
GP245	01/06/06	ug/L	1300 L	0 UL	0 UL	452 L	0 UL	11.1 J	18300 L	111 L	408 L	0 B	0 UL	14.3 J	94.2 L
GP246	01/06/06	ug/L	4640 L	0 UL	0 UL	479 L	0 UL	28.2 L	8410 L	147 L	312 L	8.8 J	0 UL	15.8 J	117 L
GP247	01/09/06	ug/L	7570	46.7 J	9.8 J	3500	3.2 J	875	47900	2010	468	47.2	0	35.6 J	1070
GP248			Not analyzed												
GP249			Not analyzed												
GP250			Not analyzed												
GP251			Not analyzed												
GP252			Not analyzed												
GP253			Not analyzed												

* USEPA Region III Risk Based Concentrations, October 2007

** EPA Action Level for lead in water.

Bold Concentrations are over RBC

Note that these metals were detected at concentrations exceeding the RBCs in at least one sample

Table 4-19
 Metals in Groundwater
 Lower Darby Creek Area
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Location	Sampling Date	units	Aluminum	Antimony	Arsenic	Barium	Cadmium	Copper	Iron	Lead	Manganese	Nickel	Thallium	Vanadium	Zinc
MW01D	03/27/06	ug/L	0 B	0	0	562	0	0	35700	0	2120	14.3 J	9.7 J	3 J	0
MW01S	03/28/06	ug/L	0 B	0	33.8	242	0	0	34000	0	940	0 B	11.9 J	2.2 J	0
MW02	03/27/06	ug/L	0 B	0 UL	19.8 L	177 J	0 UL	0 UL	28200 L	0 UL	872 L	0 B	0 UL	6.8 J	0 UL
MW03	03/28/06	ug/L	0 B	0 UL	6.6 J	499 L	0 UL	2.1 J	51600 L	0 UL	799 L	0 B	13.4 J	3.2 J	0 UL
MW04	06/22/06	ug/L	228	0	0	1860	0 UL	7.4 J	43600	19.2	1110	7.4 J	0	2.3 J	25 J
MW05D	03/29/06	ug/L	0 B	0	0	320	0 UL	0 UL	66200	0	4370	0	0	0	0
MW05S	06/21/06	ug/L	590	0	0	1110	0 UL	7.6 J	29200	27.7	222	5.4 J	0	11.3 J	31.1 J
MW06	06/21/06	ug/L	0 B	0 UL	0 UL	441 L	0 UL	0 UL	16100 L	0 UL	383 L	9 J	0 UL	4.8 J	10.6 J
MW07D	06/21/06	ug/L	389	0	0	313	0 UL	1.9 J	10600	0	1660	35 J	0	1.3 J	10 J
MW07S	06/21/06	ug/L	0 B	0	13.5	390	0 UL	0 UL	51600	0	1660	8.1 J	0	2.2 J	0 B
MW08	03/28/06	ug/L	0 B	0	0	192 J	0	1.8 J	12900	0	955	0 B	0	0	0 B
MW09	03/27/06	ug/L	0 B	0	16.7	87.6 J	0	0	42000	0	4160	0 B	13.3 J	0	0 B
MW10	06/22/06	ug/L	25500 L	32.8 J	46.4 L	3860 L	25.2 L	847 L	105000 L	2620 L	1400 L	632 L	0 UL	114 L	4460 L
MW11	06/21/06	ug/L	59500 L	53.1 J	64.2 L	5210 L	27.9 L	1250 L	265000 L	6930 L	2390 L	347 L	11.1 J	550 L	7720 L
MW12	06/22/06	ug/L	3420 L	0 UL	0 UL	1300 L	0 UL	28.1 L	17000 L	176 L	226 L	14.2 J	0 UL	17.9 J	148 L

* USEPA Region III Risk Based Concentrations, October 2007

** EPA Action Level for lead in water.

Bold Concentrations are over RBC

Note that these metals were detected at concentrations exceeding the RBCs in at least one sample

Table 4-20
 Volatile Organic Compounds (VOCs) in Stormwater
 Lower Darby Creek Area

Date*	Location	Units	1,4-dichlorobenzene	methyl tert-butyl ether(MTBE)	tetrachloroethylene(PCE)
RBC for tap water**			0.28	2.64	0.104
4/15/2003	CS01	ug/L	0	8 J	0
5/6/2003	CS01	ug/L	0	0	0
4/15/2003	CS02	ug/L	2 J	0	0
5/6/2003	CS02	ug/L	3 J	0	0
4/15/2003	CS03	ug/L	2 J	0	2 J
5/6/2003	CS03	ug/L	4 J	0	0
5/6/2003	CS04	ug/L	0	0	0
4/15/2003	CS05	ug/L	0	3 J	0
5/6/2003	CS05	ug/L	0	0	0
5/22/2003	PD01	ug/L	0	0	0
5/22/2003	PD02	ug/L	0	0	0
5/22/2003	PD03	ug/L	0	0	0

* Samples were collected during a dry period (4/15/2003) and a storm event (5/6/2003)

** USEPA Region III Risk Based Concentrations, October 2007

Bold values indicate concentrations over RBCs

Note that these VOCs were detected at concentrations exceeding the RBCs in at least one sample

Table 4-21
Semivolatile Organic Compounds (SVOCs) in Stormwater
Lower Darby Creek Area

Date*	Location	Units	benzo(a)anthracene	benzo(a)pyrene	benzo(b)fluoranthene	benzo(k)fluoranthene	indeno(1,2,3-C,D)pyrene
RBC for tap water**			0.03	0.003	0.03	0.3	0.03
4/15/2003	CS01	ug/L	0	0	0	0	0
5/6/2003	CS01	ug/L	0	0	0	0	0
4/15/2003	CS02	ug/L	0	0	0	0	0
5/6/2003	CS02	ug/L	0	0	0	0	0
4/15/2003	CS03	ug/L	0	0	0	0	0
5/6/2003	CS03	ug/L	0	0	0	0	0
5/6/2003	CS04	ug/L	4 J	4 J	4 J	3 J	3 J
4/15/2003	CS05	ug/L	0	0	0	0	0
5/6/2003	CS05	ug/L	0	0	0	0	0
5/22/2003	PD01	ug/L	0	0	0	0	0
5/22/2003	PD03	ug/L	0	0	0	0	0

* Samples were collected during a dry period (4/15/2003) and a storm event (5/6/2003)

** USEPA Region III Risk Based Concentrations, October 2007

Bold values indicate concentrations over RBCs

Note that these SVOCs were detected at concentrations exceeding the RBCs in at least one sample

Table 4-22
Pesticides and Polychlorinated Biphenyls (PCBs) in Stormwater
Lower Darby Creek Area

Date*	Location Name	Units	Heptachlor Epoxide
RBC for tap water**			0.007
4/15/2003	LD-CS01	ug/L	0
5/6/2003	LD-CS01	ug/L	0
4/15/2003	LD-CS02	ug/L	0.03 J
5/6/2003	LD-CS02	ug/L	0
4/15/2003	LD-CS03	ug/L	0
5/6/2003	LD-CS03	ug/L	0
5/6/2003	LD-CS04	ug/L	0
4/15/2003	LD-CS05	ug/L	0
5/6/2003	LD-CS05	ug/L	0
5/22/2003	LD-PD01	ug/L	0
5/22/2003	LD-PD03	ug/L	0

* Samples were collected during a dry period (4/15/2003) and a storm event (5/6/2003)

** USEPA Region III Risk Based Concentrations, October 2007

Bold values indicate concentrations over RBCs

Note that these VOCs were detected at concentrations exceeding the RBCs in at least one sample

Table 4-23
Total Metals in Stormwater
Lower Darby Creek Area

Date*	Location	Units	Arsenic	Iron	Lead	Manganese
RBC for tap water **		ug/L	0.044	22550	15***	730
4/15/2003	CS01	ug/L	0	0	0.53 J	0
5/6/2003	CS01	ug/L	0.37	311	2.2	8.3
4/15/2003	CS02	ug/L	2.4	13200	4.6	625
5/6/2003	CS02	ug/L	1.4	0	4.3	935
4/15/2003	CS03	ug/L	1.2	15700	6.3	573
5/6/2003	CS03	ug/L	1.5	29500	9.5	773
5/6/2003	CS04	ug/L	1.5	4650	57.4	232
4/15/2003	CS05	ug/L	0.48	125	6.6	32.1
5/6/2003	CS05	ug/L	1.1	1290	35.4	61.5
5/22/2003	PD01	ug/L	7	2600	14.4 J	410
5/22/2003	PD03	ug/L	1	75.3	0.94 J	31.5

* Samples were collected during a dry period (4/15/2003) and a storm event (5/6/2003)

** USEPA Region III Risk Based Concentrations, October 2007

*** EPA Action Level for lead in water

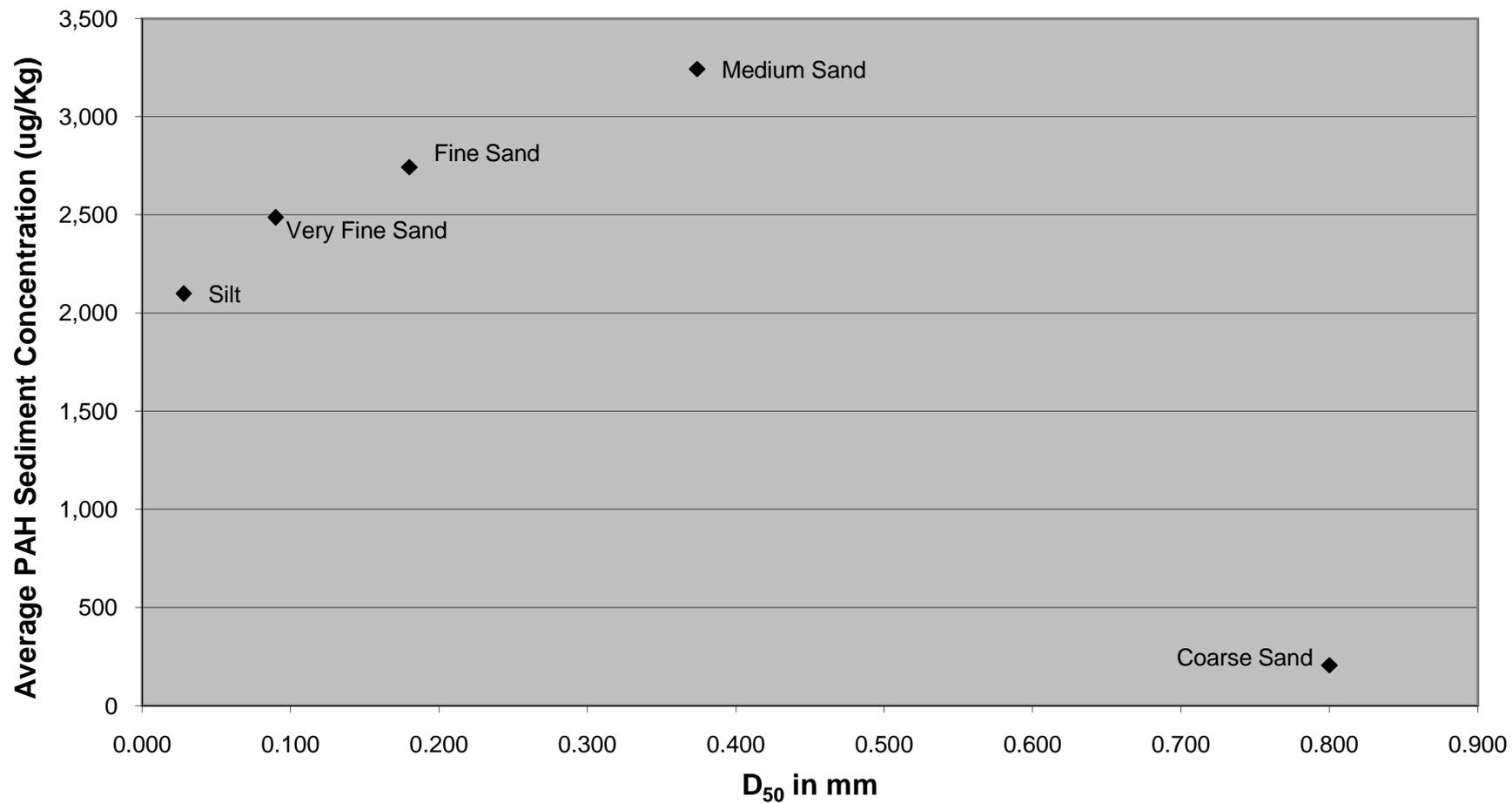
Bold values indicate concentrations over RBCs

Note that these VOCs were detected at concentrations exceeding the RBCs in at least one sample

Table 4-24
Water Level Measurements from Monitoring Wells
2003 and 2006
Lower Darby Creek Area

Well	Elevation - Top of Inner Casing (ft, MSL)	Date	Depth to Water (ft)	Groundwater Elevation (ft-MSL)
MW-01D	13.41	29-Apr-03	13.52	-0.11
MW-01D	13.41	20-May-03	13.69	-0.28
MW-01D	13.41	11-Jun-03	13.63	-0.22
MW-01D	13.41	9-Jul-03	13.18	0.23
MW-01D	13.41	27-Mar-06	14.62	-0.98
MW-01S	13.67	29-Apr-03	5.23	8.44
MW-01S	13.67	20-May-03	6.02	7.65
MW-01S	13.67	11-Jun-03	4.92	8.75
MW-01S	13.67	9-Jul-03	5.20	8.47
MW-01S	13.67	27-Mar-06	6.21	7.80
MW-02	16.02	29-Apr-03	16.21	-0.19
MW-02	16.02	20-May-03	16.70	-0.68
MW-02	16.02	11-Jun-03	16.19	-0.17
MW-02	16.02	9-Jul-03	15.83	0.19
MW-02	16.02	27-Mar-06	17.55	-1.27
MW-03	5.44	29-Apr-03	10.42	-4.98
MW-03	5.44	20-May-03	9.52	-4.08
MW-03	5.44	11-Jun-03	10.14	-4.70
MW-03	5.44	9-Jul-03	8.95	-3.51
MW-03	5.44	27-Mar-06	10.01	-4.02
MW-04	20.47	27-Mar-06	12.95	7.75
MW-04	20.47	22-Jun-06	13.01	7.46
MW-05D	20.25	27-Mar-06	19.49	0.79
MW-05D	20.25	21-Jun-06	19.17	1.08
MW-05S	20.29	27-Mar-06	15.92	4.54
MW-05S	20.29	21-Jun-06	16.04	4.25
MW-06	17.61	27-Mar-06	11.54	6.30
MW-06	17.61	21-Jun-06	11.68	5.93
MW-07D	12.85	21-Jun-06	34.35	-21.50
MW-07S	13.88	27-Mar-06	11.61	2.54
MW-07S	13.88	21-Jun-06	12.50	1.38
MW-08	13.01	29-Apr-03	8.44	4.57
MW-08	13.01	20-May-03	8.69	4.32
MW-08	13.01	11-Jun-03	7.90	5.11
MW-08	13.01	9-Jul-03	8.19	4.82
MW-08	13.01	27-Mar-06	9.00	4.47
MW-09	18.71	29-Apr-03	10.16	8.55
MW-09	18.71	20-May-03	10.60	8.11
MW-09	18.71	11-Jun-03	9.80	8.91
MW-09	18.71	9-Jul-03	9.58	9.13
MW-09	18.71	27-Mar-06	11.66	7.52
MW-10	89.43	27-Mar-06	67.38	22.35
MW-10	89.43	22-Jun-06	70.02	19.41
MW-11	72.78	27-Mar-06	51.00	22.09
MW-11	72.78	21-Jun-06	50.85	21.93
MW-12	21.45	27-Mar-06	13.91	7.68
MW-12	21.45	22-Jun-06	13.01	7.46

Figure 4-26
Average Sediment PAHs Concentration in Various Grain Sizes



**TABLE 6-1
SUMMARY OF HUMAN HEALTH RISKS FOR LOWER DARBY CREEK AREA**

MEDIA OF CONCERN Receptors --V	Cumulative Cancer Risk	Maximum Target Organ HI	Population % Lead >10ug/dl	Contributors to unacceptable risk listed if cancer risk > 1E-6, noncancer HQ > 0.2, or blood lead > 10 ug/dL for > 5% of population Lifetime receptor-- only cancer risk COCs; child or adult-- only noncancer COCs; "BG"-- levels similar to background
GROUNDWATER				
Lifetime Resident	6.6E-02	--	--	TCDD, arsenic, PCBs, atrazine, aldrin, dieldrin, heptachlor epoxide, 2,4- and 2,6-dinitrotoluene, 3,3'-dichlorobenzidine, benz(a)anthracene, BAP, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, bis(2-ethylhexyl) phthalate, N-Nitroso-di-n-propylamine, PCE, vinyl chloride, 4,4'-DDT, 2,2'-oxybis(1-chloropropane), heptachlor, delta-BHC, benzene, chloroform, naphthalene, alpha-BHC, 4,4'-DDD, bromodichloromethane, 4,4'-DDE, 3-nitroaniline, beta-BHC, carbon tetrachloride, 1,4-dichlorobenzene, 4-nitroaniline, gamma-BHC (Lindane), TCE, gamma-chlordane, alpha-chlordane
Child Resident	(see lifetime)	43	100% >10ug/dl	TCDD, aldrin, heptachlor epoxide, Aroclor-1016, 2,6- and 2,4-dinitrotoluene, 3-nitroaniline, nitrobenzene, aluminum, antimony, arsenic, barium, cadmium, cobalt, copper, iron, lead, manganese, mercury, vanadium, thallium, zinc
Adult Resident	(see lifetime)	31	--	(similar to noncancer risk drivers for residential child)
Construction Worker	1.0E-05	< 1	--	
Industrial Worker	2.5E-04	< 1	--	TCDD, PCBs, 2,2'-oxybis(1-chloropropane), benz(a)anthracene, BAP, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, benzene, chloroform, PCE, carbon tetrachloride, 1,4-dichlorobenzene (cancer risk)
SURFACE WATER - LOWER DARBY AND LOWER COBBS CREEKS				
Lifetime Recreational	9.1E-06	--	not a COPC	
Recreational Child	(see lifetime)	<1	not a COPC	
Recreational Adult	(see lifetime)	<1	not a COPC	
Construction Worker	<1.0E-06	<1	not a COPC	
SEDIMENT - LOWER DARBY AND LOWER COBBS CREEKS				
Lifetime Recreational	2.1E-05	--	--	
Recreational Child	(see lifetime)	<1	--	
Recreational Adult	(see lifetime)	<1	--	
Construction Worker	<1.0E-06	<1	--	
SURFACE WATER - TINICUM MARSH				
Lifetime Recreational	<1.0E-06	--	--	
Recreational Child	(see lifetime)	<1	--	
Recreational Adult	(see lifetime)	<1	--	
Construction Worker	<1.0E-06	<1	--	
SEDIMENT - TINICUM MARSH				
Lifetime Recreational	8.4E-06	--	not a COPC	
Recreational Child	(see lifetime)	<1	not a COPC	
Recreational Adult	(see lifetime)	<1	not a COPC	
Construction Worker	<1.0E-06	<1	not a COPC	
SURFACE WATER - LEACHATE SEEPS				
Lifetime Recreational	<1.0E-06	--	--	
Recreational Child	(see lifetime)	<1	--	
Recreational Adult	(see lifetime)	<1	--	
Construction Worker	<1.0E-06	<1	--	
SEDIMENT - LEACHATE SEEPS				
Lifetime Recreational	6.1E-06	--	not a COPC	
Recreational Child	(see lifetime)	<1	not a COPC	
Recreational Adult	(see lifetime)	<1	not a COPC	
Construction Worker	<1.0E-06	<1	not a COPC	
FISH TISSUE - LOWER DARBY AND LOWER COBBS CREEKS				
Lifetime Subsistence Fisher	3.6E-02	--	--	arsenic, PCBs, DDE, DDT, alpha- and gamma-chlordane, beta-BHC, dieldrin, heptachlor, heptachlor epoxide, benz(a)anthracene, BAP, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene
Child Subsistence Fisher	(see lifetime)	197	100% >10ug/dl	arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc, alpha- and gamma-chlordane, dieldrin, heptachlor epoxide, DDT, fluoranthene, phenanthrene, pyrene
Adult Subsistence Fisher	(see lifetime)	47	100% >10ug/dl	arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc, alpha- and gamma-chlordane, dieldrin, heptachlor epoxide, DDT
Lifetime Recreational Fisher	5.3E-03	--	--	arsenic, PCBs, DDE, DDT, alpha- and gamma-chlordane, beta-BHC, dieldrin, heptachlor, heptachlor epoxide, benz(a)anthracene, BAP, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene
Child Recreational Fisher	(see lifetime)	29	100% >10ug/dl	arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc, alpha-chlordane, dieldrin, heptachlor epoxide
Adult Recreational Fisher	(see lifetime)	6.9	100% >10ug/dl	arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc

In this table, risk drivers are listed for any receptor only if the cumulative cancer risk for all substances exceeds 1×10^{-4} or if the HI for any target organ exceeds 1. When these thresholds are exceeded, then all contributing chemicals are listed with individual cancer risks greater than 1×10^{-6} or an HQ that is a significant contributor to the target organ HI exceeding 1.

**TABLE 6-1
SUMMARY OF HUMAN HEALTH RISKS FOR LOWER DARBY CREEK AREA**

MEDIA OF CONCERN Receptors --V	Cumulative Cancer Risk	Maximum Target Organ HI	Population % Lead >10ug/dl	Contributors to unacceptable risk listed if cancer risk > 1E-6, noncancer HQ > 0.2, or blood lead > 10 ug/dL for > 5% of population Lifetime receptor-- only cancer risk COCs; child or adult-- only noncancer COCs; "BG"-- levels similar to background
TINICUM MARSH - FISH TISSUE				
Lifetime Subsistence Fisher	3.7E-02	--	--	arsenic, DDE, DDT, alpha- and gamma-chlordane, alpha-BHC, dieldrin, heptachlor epoxide, benz(a)anthracene, BAP, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene
Child Subsistence Fisher	(see lifetime)	319	100% > 10ug/dl	arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc, alpha- and gamma-chlordane, dieldrin, heptachlor epoxide, DDT
Adult Subsistence Fisher	(see lifetime)	76	100% > 10ug/dl	arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc, alpha-chlordane, dieldrin, heptachlor epoxide
Lifetime Recreational Fisher	5.4E-03	--	--	arsenic, DDE, DDT, alpha- and gamma-chlordane, alpha-BHC, dieldrin, heptachlor epoxide, benz(a)anthracene, BAP, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene
Child Recreational Fisher	(see lifetime)	47	100% > 10ug/dl	arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc, alpha-chlordane, dieldrin, heptachlor epoxide
Adult Recreational Fisher	(see lifetime)	11	100% > 10ug/dl	arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc
ZONE 1 - SURFACE SOIL				
Lifetime Resident	6.7E-04	--	--	arsenic, PCBs, dieldrin, heptachlor epoxide, beta-BHC, gamma-chlordane, benz(a)anthracene, BAP, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene
Child Resident	(see lifetime)	19	6.3% >10ug/dl	lead, antimony, heptachlor epoxide, dieldrin, endrin, Aroclor-1254, cobalt (BG), copper, iron, thallium (BG)
Adult Resident	(see lifetime)	2.4	--	antimony
Lifetime Recreational	1.3E-04	--	--	arsenic, PCBs, dieldrin, heptachlor epoxide, benz(a)anthracene, BAP, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene
Recreational Child	(see lifetime)	3.2	--	antimony
Recreational Adult	(see lifetime)	<1	1.3% >10ug/dl	
ZONE 1 - TOTAL SOIL (COMBINED SURFACE AND SUBSURFACE)				
Construction Worker	5.2E-05	5.2	19% >10ug/dl	antimony, heptachlor epoxide, lead
Industrial Worker	3.9E-04	1.2	1.8% >10ug/dl	arsenic, PCBs, dieldrin, heptachlor epoxide, benz(a)anthracene, BAP, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, TCDD, plus antimony for noncancer
ZONE 2 - SURFACE SOIL				
Lifetime Resident	2.8E-04	--	--	arsenic (BG), PCBs, benz(a)anthracene, BAP, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, aldrin
Child Resident	(see lifetime)	2.7	3.0% >10ug/dl	Aroclor-1254 -- plus small % contribution from cobalt (BG), iron (BG), and antimony (BG)
Adult Resident	(see lifetime)	<1	--	
Lifetime Recreational	5.5E-05	--	--	
Recreational Child	(see lifetime)	<1	--	
Recreational Adult	(see lifetime)	<1	1.1% >10ug/dl	
ZONE 2 - TOTAL SOIL (COMBINED SURFACE AND SUBSURFACE)				
Lifetime Resident	2.3E-04	--	--	arsenic (BG), PCBs, benz(a)anthracene, BAP, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene
Child Resident	(see lifetime)	1.2	1.6% >10ug/dl	Aroclor-1254 -- plus small % contribution from cobalt (BG), iron (BG), and antimony
Adult Resident	(see lifetime)	<1	--	
Lifetime Recreational	4.6E-05	--	--	
Recreational Child	(see lifetime)	<1	--	
Recreational Adult	(see lifetime)	<1	1.0% >10ug/dl	
Construction Worker	2.3E-06	<1	9.3% >10ug/dl	lead (BG)
Industrial Worker	1.6E-05	<1	1.3% >10ug/dl	
ZONE 3 - SURFACE SOIL				
Lifetime Resident	1.9E-04	--	not a COPC	arsenic (BG), benz(a)anthracene, BAP, benzo(b)- and benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, PCBs
Child Resident	(see lifetime)	1.2	not a COPC	antimony, cobalt (BG), and iron (BG)
Adult Resident	(see lifetime)	<1	not a COPC	
Industrial Worker	1.2E-05	<1	not a COPC	
ZONE 3 - TOTAL SOIL (COMBINED SURFACE AND SUBSURFACE)				
Lifetime Resident	1.3E-04	--	not a COPC	arsenic (BG), benz(a)anthracene, BAP, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene
Child Resident	(see lifetime)	<1	not a COPC	
Adult Resident	(see lifetime)	<1	not a COPC	
Construction Worker	1.2E-06	<1	not a COPC	
Industrial Worker	8.6E-06	<1	not a COPC	

In this table, risk drivers are listed for any receptor only if the cumulative cancer risk for all substances exceeds 1×10^{-4} or if the HI for any target organ exceeds 1. When these thresholds are exceeded, then all contributing chemicals are listed with individual cancer risks greater than 1×10^{-6} or an HQ that is a significant contributor to the target organ HI exceeding 1.

**TABLE 6-1
SUMMARY OF HUMAN HEALTH RISKS FOR LOWER DARBY CREEK AREA**

MEDIA OF CONCERN Receptors --V	Cumulative Cancer Risk	Maximum Target Organ HI	Population % Lead >10ug/dl	Contributors to unacceptable risk listed if cancer risk > 1E-6, noncancer HQ > 0.2, or blood lead > 10 ug/dL for > 5% of population Lifetime receptor-- only cancer risk COCs; child or adult-- only noncancer COCs; "BG"-- levels similar to background
ZONE 1 - AIR PATHWAY - OUTDOOR VAPORS				
Lifetime Resident	<1.0E-06	--	NA	
Child Resident	(see lifetime)	<1	NA	
Adult Resident	(see lifetime)	<1	NA	
Lifetime Recreational	<1.0E-06	--	NA	
Recreational Child	(see lifetime)	<1	NA	
Recreational Adult	(see lifetime)	<1	NA	
Industrial Worker	<1.0E-06	<1	NA	
Construction Worker	<1.0E-06	<1	NA	
ZONE 1 - AIR PATHWAY - INDOOR VAPORS				
Lifetime Resident	2.6E-06	--	NA	
Child Resident	(see lifetime)	<1	NA	
Adult Resident	(see lifetime)	<1	NA	
Industrial Worker	<1.0E-06	<1	NA	
ZONE 2 - AIR PATHWAY - OUTDOOR VAPORS				
Lifetime Resident	<1.0E-06	--	NA	
Child Resident	(see lifetime)	<1	NA	
Adult Resident	(see lifetime)	<1	NA	
Lifetime Recreational	<1.0E-06	--	NA	
Recreational Child	(see lifetime)	<1	NA	
Recreational Adult	(see lifetime)	<1	NA	
Industrial Worker	<1.0E-06	<1	NA	
Construction Worker	<1.0E-06	<1	NA	
ZONE 2 - AIR PATHWAY - INDOOR VAPORS				
Lifetime Resident	1.4E-06	--	NA	
Child Resident	(see lifetime)	<1	NA	
Adult Resident	(see lifetime)	<1	NA	
Industrial Worker	<1.0E-06	<1	NA	
ZONE 3 - AIR PATHWAY - OUTDOOR VAPORS				
Lifetime Resident	<1.0E-06	--	NA	
Child Resident	(see lifetime)	<1	NA	
Adult Resident	(see lifetime)	<1	NA	
Lifetime Recreational	<1.0E-06	--	NA	
Recreational Child	(see lifetime)	<1	NA	
Recreational Adult	(see lifetime)	<1	NA	
Industrial Worker	<1.0E-06	<1	NA	
Construction Worker	<1.0E-06	<1	NA	
ZONE 3 - AIR PATHWAY - INDOOR VAPORS				
Lifetime Resident	3.4E-06	--	NA	
Child Resident	(see lifetime)	<1	NA	
Adult Resident	(see lifetime)	<1	NA	
Industrial Worker	<1.0E-06	<1	NA	

In this table, risk drivers are listed for any receptor only if the cumulative cancer risk for all substances exceeds 1×10^{-4} or if the HI for any target organ exceeds 1. When these thresholds are exceeded, then all contributing chemicals are listed with individual cancer risks greater than 1×10^{-6} or an HQ that is a significant contributor to the target organ HI exceeding 1.

Table 6-2
Chemicals Found in Earthworms Grown In City Park Surface Soil
Lower Darby Creek Area

Chemical	Units	Initial Worm	Control Mean	Sampling Locations*						
				Background	GP021 Mean	GP081 Mean	GP031 Mean	GP037 Mean	GP035 Mean	GP032 Mean
benzaldehyde	ug/kg	20000				13000		12000		
aluminum	mg/kg	159	212	1080	692	533.5	1190	414.5	416	406
arsenic	mg/kg	14.7	13.45	11.5	21.25	13.8	21.35	11.25	14.4	23.35
barium	mg/kg	6.7	1.7	11.7	11.6	16	13.25	8.95	9.95	6.7
cadmium	mg/kg	1.3	1.2	3.5	7.45	4	4.3	2.7	1.8	1.85
calcium	mg/kg	4960	4085	4100	4265	4065	4160	5610	7110	3775
chromium, total	mg/kg	1.3	1.145	3.4	2.8	3.45	3.9	2.55	2.65	3.05
cobalt	mg/kg	5.05	4.6	5.5	5.1	4.95	6.35	4.5	5.25	5
copper	mg/kg	11.8	10.95	15	20.25	23.35	17.25	23.55	26.95	17.2
iron	mg/kg	870.5	451	2020	1520	1250	2670	1455	1290	1150
lead	mg/kg	1.65	1.25	10.1	18.15	18.55	13.4	10.9	8.55	120
magnesium	mg/kg	973	811	1240	1190	1070	1305	2290	1875	1125.5
manganese	mg/kg	8.9	5.85	29.7	33.55	31.1	59.1	27	34.85	21.7
mercury	mg/kg				0.51	0.82	0.28			0.28
nickel	mg/kg			1.7	1.85	1.7	2.5	1.8	2.1	2.25
potassium	mg/kg	10350	9765	9710	9500	9265	9515	9005	9375	9530
selenium	mg/kg	4	4.85	4.9	8.5	7	5.7	4.2	5.25	4.65
silver	mg/kg			0.69	0.685	0.92		0.91	0.765	0.655
sodium	mg/kg	5995	5155	4890	5025	4955	5110	5285	5290	5415
vanadium	mg/kg	0.545	0.17	3.8	2.35	1.8	3.5	2.3	2.05	3.05
zinc	mg/kg	129	122.5	128	139	141	142.5	125.5	140.5	145.5

* See Figure 3-13 for sampling locations.

Table 6-3
 Summary of Chemicals Detected in Field-Captured Earthworms
 Lower Darby Creek Area

Chemical	Units	Sampling Locations*				
		Background	GP021	GP031	GP032	GP081
Lipid	%	0.18	0.18	0.89	0.55	0.18
4-methylphenol (p-cresol)	ug/kg			1800		
benzaldehyde	ug/kg			540		
benzo(a)anthracene	ug/kg		310	590		370
benzo(a)pyrene	ug/kg		240	700		340
benzo(b)fluoranthene	ug/kg		190			270
benzo(g,h,i)perylene	ug/kg			200		
benzo(k)fluoranthene	ug/kg		260			440
bis(2-ethylhexyl) phthalate	ug/kg	250		320		
chrysene	ug/kg		300	690		390
fluoranthene	ug/kg		690	900		820
phenanthrene	ug/kg		380	710		370
phenol	ug/kg			730		
pyrene	ug/kg		650	1600		900
aldrin	ug/kg				1.2	
alpha endosulfan	ug/kg				9.2	3
alpha-chlordane	ug/kg		1.6			
delta BHC (delta hexachlorocyclohexane)	ug/kg			0.81		
dieldrin	ug/kg		3.6	2.7		2.2
endosulfan sulfate	ug/kg			5.7		
endrin ketone	ug/kg		8.8			
heptachlor epoxide	ug/kg			4.4		
methoxychlor	ug/kg		11	9.4		
p,p-DDE	ug/kg		3.3	2.3		
p,p-DDT	ug/kg		5.7	9.2		5.8
PCB-1260 (Arochlor 1260)	ug/kg		36	180	66	39
aluminum	mg/kg	12600	8170	6680	5860	10400
antimony	mg/kg	1.4	1.4	0.92	1.5	1.5
arsenic	mg/kg	7.4	19.8	7.8	15.6	5
barium	mg/kg	87.2	88.6	61.3	49.4	131
beryllium	mg/kg		0.17	0.16	0.25	0.17
cadmium	mg/kg	0.65	2.9	0.67	2.7	3.1
calcium	mg/kg	2490	7910	3610	5020	3770
chromium, total	mg/kg	26.4	20	21.5	15.1	31.8
cobalt	mg/kg	10.2	8	6.2	5.3	9.2
copper	mg/kg	41.3	60.6	42	32.8	63.3
iron	mg/kg	19000	14200	13100	11100	19800
lead	mg/kg	67.2	153	70.5	432	196
magnesium	mg/kg	4640	3260	3180	2140	2990
manganese	mg/kg	240	384	293	171	378
mercury	mg/kg	0.14	0.56	0.18	0.43	0.23
nickel	mg/kg	17.5	14.4	13.5	11.1	17.3
potassium	mg/kg	11100	7450	6090	4290	3250
selenium	mg/kg		4.2		2.2	1.2
silver	mg/kg					0.94
sodium	mg/kg	566	930	492	940	466
vanadium	mg/kg	42.5	24.8	19.7	23.8	29.5
zinc	mg/kg	183	339	152	238	348

*See Figure 3-13 for locations.

Table 6-4
Chemicals Found in Lumbriculus Worms Grown in Darby and Cobbs Creeks Sediment
Lower Darby Creek Area

Chemical	Units	Control Mean	Initial Mean	Sediment Sample Locations*						
				SD-22	SD-19	SD-28	SD-25	SD-30	SD-24	BKG
bis(2-ethylhexyl) phthalate	ug/Kg						2200			
aldrin	ug/Kg	10	25	12	27	15			14	20
alpha-chlordane	ug/Kg			180	78	68	160	160	140	74
beta BHC (beta hexachlorocyclohexane)	ug/Kg				15					
dieldrin	ug/Kg			26	110	71	200	180	180	100
endrin	ug/Kg		41	23	88	41	67	70	59	51
endrin aldehyde	ug/Kg		23	38	22	25	23		19	22
gamma-chlordane	ug/Kg		35	46	27	59	50	100	34	22
heptachlor epoxide	ug/Kg			23	49		32	31	34	19
p,p-DDD	ug/Kg			160	38	38	39	48	39	36
p,p-DDE	ug/Kg			300	41	33	56	72	51	35
p,p-DDT	ug/Kg			280						
aluminum	mg/kg	40.05	53.35	1600	957.5	382	626	592	316.5	307.5
arsenic	mg/kg						11.2	11.1	3.6	
barium	mg/kg	488	291.5	334.5	355.5	302.5	391.5	284.5	374	326
cadmium	mg/kg			2.35	0.575	0.34	0.185	0.13		0.19
calcium	mg/kg	1370	1290	2065	1780	1290	1570	1545	1265	1130
chromium, total	mg/kg	2.6	9.01	9.25	5.6	2.95	4.15	4.8	3.6	2.35
cobalt	mg/kg	1.65	1.045	3	2.45	1.7	2	1.95	1.8	1.13
copper	mg/kg	48.5	48.9	105	55.25	50.65	48.3	45.95	37.85	46.65
iron	mg/kg	2120	1585	3695	3540	2390	3000	2620	2525	2130
lead	mg/kg	2.8	1.2	31.1	21.15	8.55	14.35	13	7.2	8.2
magnesium	mg/kg	958.5	909	1450	1210	1200	1145	1085	1025	964.5
manganese	mg/kg	83.15	11.15	67.85	62.35	24.85	41.15	54.15	25.3	20.7
mercury	mg/kg			0.575						
nickel	mg/kg	1.55	10.43	4.65	4.4	3	3.7	3.75	3.1	2.25
potassium	mg/kg	10080	10395	11780	9345	12500	10650	10350	9770	8970
selenium	mg/kg	6.15	4.05	6	6.65	5.55	5.85	5.75	7.45	4.25
silver	mg/kg	0.81	0.47	1.24	1		1.4	0.895	0.72	
sodium	mg/kg	4640	4540	5690	4430	5330	5055	4870	4215	3960
vanadium	mg/kg	0.54	0.265	8.4	4.2	1.2	2.9	3	1.55	0.94
zinc	mg/kg	178	183	205.5	211	202	224	177.5	195	178.5

*See Figure 3-13 for sediment collection locations.